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MAY, 1947

TO MUMMY
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HAROLD ANDERSON

Kids' "hangout":

You can't keep youngsters out of the kitchen . . . so why not give them a corner all their own!

A private snack-bar, located just inside the back door, featuring jumbo jars of their favourite after-school treats. Of course, this is going to invite traffic. But your good Gold Seal Congoleum rug can take any amount of coming and going! With its wear layer of heat-toughened paint and baked enamel equal in thickness to 8 coats of the best floor paint applied by hand . . . Gold Seal Congoleum is *lastingly* pretty, and it cleans up bright as new with the swish of a damp cloth. Just remember! For all-round economy that only real **Gold Seal Congoleum Rugs** can give . . . look for this seal. It carries the famous money-back guarantee of satisfaction! You'll be surprised how much quality you can buy for so little money.

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Actual photograph of 1947 Studebaker Champion Regal De Luxe 2-door sedan

A thrilling eyeful at anyone's doorway... this excitingly different postwar Studebaker



Studebaker's new safety brakes automatically adjust themselves! No-glare "black light" illuminates the dash dials! These are just two Studebaker originations that delight and protect owners of these far-advanced postwar cars. Studebaker's marvelous 1947-type automatic overdrive for extra gas saving is available in all models at added cost.

GO CALLING in a distinctive new 1947 Studebaker and you certainly bring along a timely subject for conversation.

For months now, just the mention of this strikingly original postwar automobile has been sparking friendly talk.

Script writers for the big-time radio shows—and cartoonists, too—have been quick to capitalize on the public's interest in the far-advanced Studebaker contours.

All this attention quite naturally thrills the envied motorists who are proudly driving new postwar Studebakers. They are delighted that Studebaker designed these revolutionary cars so daringly.

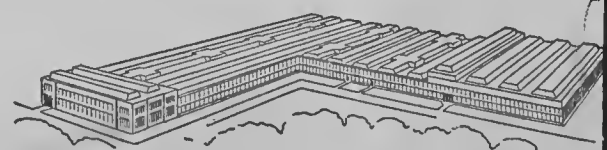
Yet, this breath-taking Studebaker styling only begins to suggest the gratifying new kind of motoring they enjoy.

You understand why they feel that way, every time you travel in a 1947 Studebaker. You never dreamed that any car could ride, handle and perform like this.

You're sensibly forehanded, that's sure, if you've decided on a completely new, thoroughly postwar 1947 Studebaker as your next car. A little waiting will certainly prove very much worth while.

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postwar car*



The Studebaker Corporation of Canada, Limited, Hamilton, Ontario

With Hat in Hand

Canadian railways make joint application for a thirty per cent increase in freight rates

By P. M. ABEL

gantly refused. Col. J. L. Ralston, chief counsel for the Maritimes, was so aroused that he accused the railways of attempting to give him and his colleagues the "brush-off," so they would be stampeded into appearing before the tribunal insufficiently prepared. In the end the roads were ordered to provide most of the information requested and the sittings were postponed till February 11.

The embers which glowed in the preliminary hearing have smouldered continuously, and have burst into flame repeatedly. Throughout the case there has been an unceasing effort on the part of the railways to restrict the scope of the hearings and to press for an early decision, while the counsel for the provinces have sought to widen the enquiry. In one aside Col. Ralston said he had never seen so much nervousness in

IN 1922 the Canadian parliament re-established the Crow's Nest Agreement. Somewhat battered and amended, to be sure, but important enough to be regarded by the western grain grower, even in its new form, as his bill of rights. This landmark in railway legislation fixed freight rates on grain and flour and forbade any alteration except by parliament itself.

Since that time, there have been no fundamental changes in the rate structure of Canada. There was a flurry of interest in the extensive enquiry which began in 1925 and was not completed until 1927, but for 25 years there has been no kicking over the traces. True, the Rowell-Sirois Commission warned that there was a revival of regional dissatisfaction with the rate structure. And all three western premiers agreed last year to a joint application for a downward revision. We shall never know whether the case they had in mind was more or less convincing than the one now under investigation at Ottawa. For on October 8, 1946, the railways beat Messrs. Douglas, Hart and Manning into the ring by asking for a 30 per cent increase right across the board on all freight, except the Crow rates referred to above, and coal on which they asked for a lesser rate of increase.

The logic behind the railway case is very simple. The C.P.R. for example, declares that because of wage increases granted by the N.W.L.B., over their protest, their wage bill for 1946 was up over \$29 millions. Cost of material has gone up nearly \$20 millions, making the annual cost of operations some \$50 millions more than it was at the commencement of the war. Admittedly traffic has increased and income is higher, but the high operating costs, according to the way they tell the story, wipe out that advantage and the roads are worse off than they were in 1940.

Looking into the future the railways see a possible reduction in the volume of traffic. That means a reduction in profits, postponement of improvements, stagnation, bank-

There is no suitable alternative for most of their business. Therefore a 30 per cent boost in freight rates will fix everything. It will provide \$83 millions for the railways of Canada and everything will be fine.

To railway minds the argument seemed neat and shipshape. It does not seem to have occurred to them that the public would like to know a little more about it before forking over that much cash. They expected the public to share their haste in averting the well advertised threat of railway insolvency. Their attitude was to have the 30 per cent boost granted immediately and if there were a few shippers who felt the higher rates bore down on them unduly, these cases could be argued before the Board of Transport Commissioners and the necessary adjustments made.

TO the surprise of the railways, opposition swept the West like a prairie fire. To this was added the protest of the Maritimes, so that seven provinces presented a united front in resisting the carriers' demands. Only Ontario and Quebec remained undisturbed by the railways' proposals. They are sitting pretty. In Canada the Transportation Commission fixes an upper limit, beyond which railways may not charge. But roads are free to cut rates drastically to meet competition from trucks, water-borne shipping, and American railways. And, make no mistake about it, they keep rates in competitive territory down to a point that will assure them a large volume of

dispensing information. In another lively exchange, Isaac Pitblado, chief railways counsel declared himself distressed at the slow progress of the investigation. "Every day of delay in getting the relief we ask for amounts to about \$300,000," he declared. This is the amount of potential

additional revenue the companies claim they would obtain daily under the proposed increase.

Col. Ralston replied that Mr. Pitblado was "counting his chickens

before they were hatched"; he was assuming that judgment was going to be given in support of the railway application. The doughty colonel accused the railways of holding the whip of urgency over the enquiry; that they were using the threat of bankruptcy to spur the pace of the hearings. "But," said the colonel, "the \$300,000 had gotten to be a joke, even on the streets."

IN the early stages of the enquiry counsel for the western provinces dealt fully with the discrimination under which the West now suffers. Privy Council order 886 of 1925 instructed the then Board of Railway Commissioners in the following language:

"... the policy of equalization of freight rates should be recognized to the fullest possible extent as being the only means of dealing equitably with all parts of Canada and as being the method best calculated to facilitate the exchange of commodities between the various portions of the Dominion, as well as the encouragement of industry and agriculture and the development of export trade."

Yet after 20 years the standard, first class prairie rates for 400 miles, for instance, are 26 per cent, and the same B.C. rates 46 per cent above those charged in Ontario and Quebec. The spread on lower class rates is not so wide. On fifth class freight for the same distance prairie shippers pay 14 per cent and B.C. shippers 32 per cent more than Torontonians.

Various tariffs were examined at Ottawa in February to show that instead of equalizing rates, the

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ruptcy! To them the obvious answer is to make the customers pay more. Raising passenger fares won't help. Passengers are slippery customers. If you raise the price of a ticket, your passenger may stay at home, take the bus, or ride the air lines. Those who pay freight bills are easier to pin down.

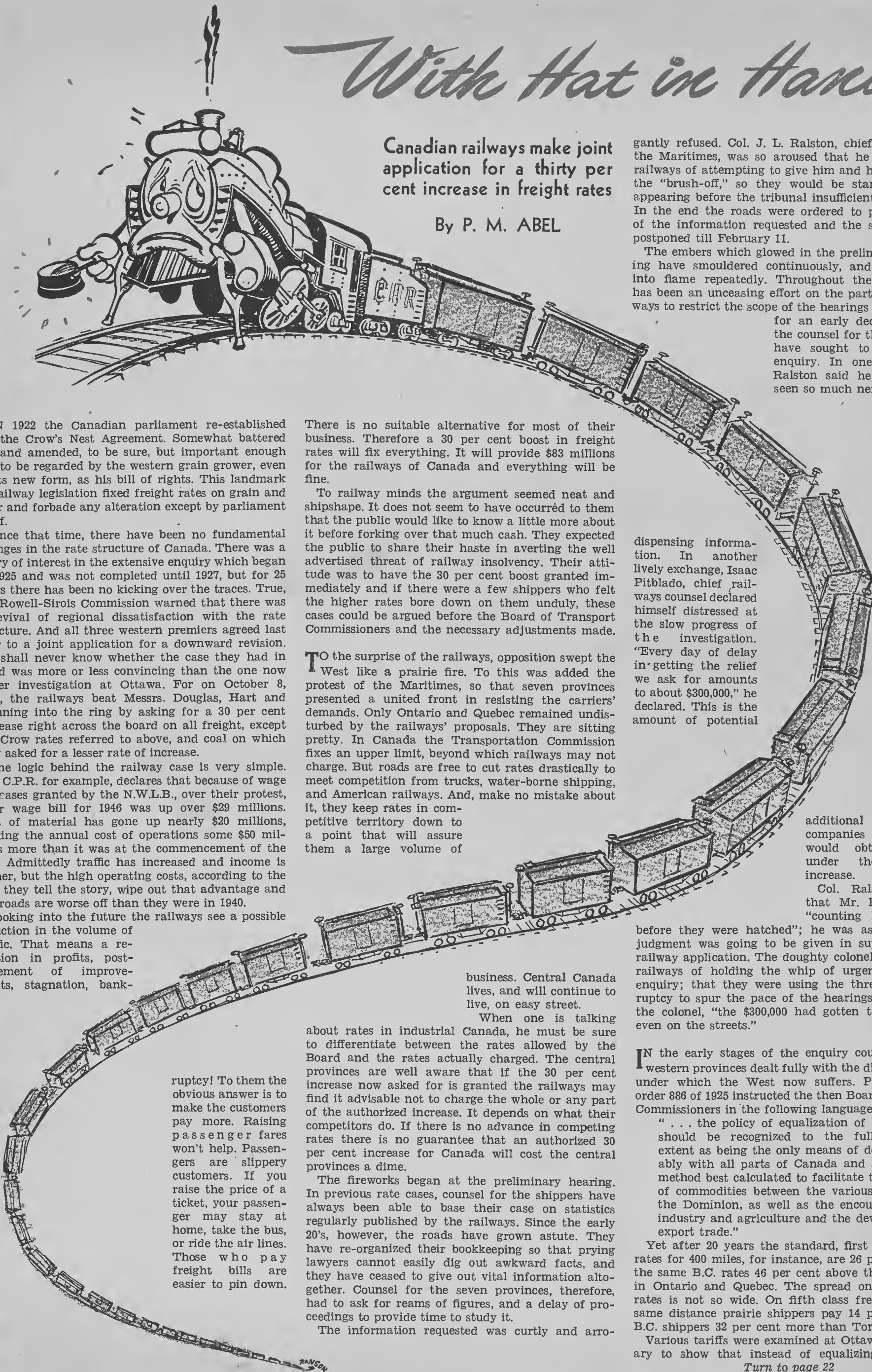
about rates in industrial Canada, he must be sure to differentiate between the rates allowed by the Board and the rates actually charged. The central provinces are well aware that if the 30 per cent increase now asked for is granted the railways may find it advisable not to charge the whole or any part of the authorized increase. It depends on what their competitors do. If there is no advance in competing rates there is no guarantee that an authorized 30 per cent increase for Canada will cost the central provinces a dime.

The fireworks began at the preliminary hearing. In previous rate cases, counsel for the shippers have always been able to base their case on statistics regularly published by the railways. Since the early 20's, however, the roads have grown astute. They have re-organized their bookkeeping so that prying lawyers cannot easily dig out awkward facts, and they have ceased to give out vital information altogether. Counsel for the seven provinces, therefore, had to ask for reams of figures, and a delay of proceedings to provide time to study it.

The information requested was curtly and arro-

business. Central Canada lives, and will continue to live, on easy street.

When one is talking





Vereen finished his supper and dipped his plate in the river, scouring it clean with sand.

BEFORE they had been three days in the sand and pine wilderness, Craig found himself looking too often and too intently at Dick Vereen's brown throat.

Temptation like that has come to men before, shut in by silence, rasped by solitude; but the continual recurrence of the impulse turned Craig's body cold and made him clasp his fingers till the knuckles whitened.

Every summer since Syracuse had sent them out with a C.E. apiece, Craig had prowled in wildernesses with Vereen—two friends as utterly different as it was possible for human personalities to be, bound in a wordless sort of comradeship which suits wild places and black nights beside a fire. And never before had a single dispute marred their perfect friendship. Vereen did what he pleased with an insolent recklessness and downed logic with laughter, and Craig had always been content.

Actually, Craig was younger, but a grave, dark trick of silence added to his twenty-six years. All his life he had been a serious boy, who loved solitude, haunting poetry, and rain. Handsome in a dark, romantic fashion, with thin, strong brows and black hair which grew low in front of his ears, giving him a look of the Latin, he had the sensitive mouth of the dreamer, and the level gaze which is never sanguine and never credulous.

When Craig went to his friend's aid, his heart was tortured by dark fear and hatred

Always he had been a little lonely, without understanding why. Now, squatting between the knees of a ghostly old cypress, ancient-looking as the world, and staring off into the green, eerie dimness where moss-hung live oaks dipped their tresses in amber stagnant water, Craig knew the answer to his inhibiting loneliness of spirit. He knew, too, why Vereen's careless and incessant talk roused this strange, deadly rage he felt. The answer was Janet Rush.

Craig had met girls before; but most of them he had fled in diffident misery, hating their glibness, their painted lips, their dazzling "line." But Janet was different. "I didn't know there was a girl like you left in the world!" he had told her that last morning, dragging the tribute awkwardly out of his numbing shyness.

He was in love with her. He knew it, and the realization awakened in him a feverish humility so intense that it was almost a pain, and an incredible wonder that anything so lyrical, so unbelievably wonderful, could have happened to him. For two days, sunk in a wordless madness, he had filled every void in his life with the sweet new dizziness, assuring himself that when he came out of the wilderness he would tell her he loved her.

And then, on the morning when their little steel boat swung out into the river and he and Vereen were finally off on their journey into the old, vague,

THE LOST TOWER OF RODONDO

little-known Florida jungle, Vereen had shifted his paddle casually, and remarked out of a clear sky, "Reckon I'll have to cut out this pirate-huntin' business when Jinny and I get married. She'll insist on goin' along, and women are the devil in the woods!"

Something in Craig's stiff consternation must have shown itself in his swiftly guarded eyes, for Vereen added a cheerful note of explanation: "Been fixed up in both families for years for Jinny Rush and me to get married. The major put something in his will about it."

The major was Vereen's father. Craig was Vereen's guest. It was through Vereen that he had met the Rush family. There was nothing to say, nothing to do. But as he sat stiffly gripping his paddle with hands that ached with tension, Craig knew that he had been a fool to come.

He and Dick Vereen had been friends for years. But no boat was ever built long enough, no mountain was high enough, no world wide enough to hold two friends, and the dead ghost of their friendship.

Vereen sat now beside the fire. His cigarette had gone out. His arms showed brown below the torn-off sleeves of his shirt. His head was flung back with god-like insolence.

"What you think, Johnny? Better be driftin' on?" he enquired blandly.

CRAIG nodded. Their avowed objective was an old Spanish ruin. No one knew where it was, but wandering Seminoles and Negroes declared that it still existed back in the interior wilderness. Strange, sinister tales were whispered about this mysterious place, and the purpose for which it had been built. Most of the natives professed a scornful disbelief in its existence, but simple-minded cracker fishermen insisted that they had viewed the crumbling walls through the jungle, seen the "torture stone," upon which Rodondo, cruellest of Spanish governors, had beheaded his tormented English and Indian prisoners, heard the weird cries which curdled the dusk about the place at twilight.

From the first whisper, Vereen had been fascinated by the grisly history of the half-mythical Hidalgo fortress. "We'll find it, Johnny, and interview the wailing ghost! Probably he comes back to see what the amiable Spaniards did with his head. Cute little way they had of changing their victims' architecture—those whiskered Pedroes. Stretch 'em out in the sun for a week or so, and occasionally lop off a few inches to shorten their misery!"

Craig gathered up their scattered mess kit, stamped out the fire, and flung his blanket roll into the boat. Ahead of them the forest closed in, drinking up the narrow amber river, sweet and panting in steamy heat—a furtive, mysterious, almost breathing land.

Birds like blue flames swung down from white-bellied bays, and shrieked astonishment at them. Insects circled madly and Craig fought them with his hat. Dick lighted a match. "No use batting 'em, Johnny. Smoke 'em out."

"Too hot," Craig said, as he stepped into the boat and took up his paddle. "No sort of country for manual labor."

"Deeper water here," commented Vereen, as he shoved the boat off. "Won't have to be fighting roots and stuff all the time."

THEY drifted through the heavy timber, arched and dim; live oaks as massive and solemn as pillars, grave green towers of bay, palms shooting up their scaly trunks. There was less undergrowth now, and the ground was dry. Craig tried to bring back his enthusiasm over choosing a camp site for the night. Always before on these adventures he had been the

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By HELEN TOPPING MILLER

Illustrated by
ROBERT RECK

THE roots of a crop can be likened to the foundation of a building. The roots and the foundation alike support the superstructure. This difference is apparent—the roots, being alive, are constantly changing and modifying the above ground parts of the plants.

In the soil beneath the feet of farmers and gardeners lies another world, populated by countless organisms that change the buried leaves, roots and stems of plants into rich black earth. From this rich earth another type of organism builds the plant food into readily available form. The upper layers of prairie soils are storehouses and manufacturing centres for plant food on a scale so extensive that imagination fails. The greater part of the food we eat, the clothes we wear, and the houses we live in have their origin in the surface soil. Much has been learned by investigators about the mysterious processes that make plant food available. Unfortunately few people take any interest in our soils and the activities that take place. What is needed is a healthy curiosity on the part of our farmers and gardeners about the marvellous transformations that occur in our soils throughout the entire growing season. Soil conservation practices can only be properly carried on when people become well informed on how soils are made and maintained.

The roots of grain crops are on a more extensive scale and have a greater fertilizer value than most of us are aware. Wheat roots not only penetrate from four to five feet into the soil, but spread widely and branch profusely. The root system is fine and fibrous and fills the soil with a network of roots. Wheat plants have two root systems. There are the primary roots that appear at germination and under favorable conditions penetrate downward about one-half inch a day. The secondary root system develops from nodes just above the primary roots. These roots spread six to nine inches on all sides of the plant and throughout the top two or three feet of soil.

A dry layer of soil or a hard strata will halt the downward penetration of the root system. On the other hand a well prepared seedbed encourages fuller root development. Fertilizers and moisture play important parts in determining root growth. In very dry years wheat crops sometimes have matured a dwarf crop without the secondary roots appearing. The relationship between root development and top growth of plants is always very close. In periods of prolonged drought extending over several years, the reduction in the root growth of grain crops and weeds may be one of the factors responsible for so much soil drifting and for reduced grain yields. On the other hand, in seasons where there is a heavy crop, and a thick mat of grain stubble is worked into the soil, the combination of above-normal

root system and stubble may provide more raw organic matter than the soil bacteria can break down without making heavy demands on the soil nitrogen. This robs the succeeding crop.

GRAIN crops belong to the grass family but it is usually only the sod forming grasses that are spoken of as grasses. New grass roots develop and old roots decay so that after a comparatively short period of time, there is such a mass of roots that the surface soil is tightly bound together to form a sod. Then too, there are the grasses with fleshy underground stems, commonly called rootstocks. Brome and couch grasses are two examples. The rootstocks of these two grasses become

WHAT ROOTS REVEAL

M. J. TINLINE

Puts together lessons old
and new which have been
learned by the study of
plant roots

established in the top three inches of soil after the first two or three seasons of solid sod. The lower rootstocks die off. This point is of great importance in breaking up such grasses.

It is this building up and accumulation of roots that made possible the productivity of our prairie soils in the first place, and now makes possible the replacement of some of the lost organic matter, by returning cultivated lands to grass for a period of years, or at more frequent intervals. The degree to which the grasses add organic matter to the soil is indicated in a recent press release from the Dominion Experimental Farm, Brandon. At one of the District Experimental Substations located at Crystal City, the virgin prairie showed 12 per cent organic or plant matter in the surface six inches of soil. Land cropped to grain, with the usual summerfallow intervening, had only 4½ per cent of organic matter after 60 years. The same land later, after four years in brome sod, had 6½ per cent.

On the District Experimental Station at Lyleton, native sod had nine per cent organic matter, stubble land four per cent; and seven years in crested wheat grass had brought this land back to 5½ per cent.

Comparison of the amount of roots collected in the top six inches of soil by growing some of the commonly grown grasses is reported from another source. Brome is at the top of the list with 6,939 pounds of roots per acre, crested wheat 5,692 pounds, while alfalfa with its deeper rooting habit had 3,550 pounds.

The sod forming grasses resume growth very early in the spring and continue active until quite late in the autumn. The long summer's growth creates a heavy demand on soil moisture and on the available nitrogen in the soil. Old brome grass stands frequently become unproductive and the leaves take on a yellowish shade. This is now believed to indicate nitrogen deficiency rather than "sod bound" condition as was formerly suggested.

ALFAFA and sweet clover possess strong fleshy tap roots that penetrate almost vertically into the soil. The branch roots do not spread far from the main root, but turn downward. Both alfalfa and sweet clover are deep feeders. The sweet clover roots under favorable conditions can be found several feet below the surface, while alfalfa roots can be located 20 feet down, although lesser depths are much more common. This deep rooting habit and longevity of this crop make it a very valuable crop for use on surface irrigated and sub-irrigated lands and for mixing in grass mixtures. For the first season's growth, sweet clover in one test added 1,825 pounds of air-dried roots to the top six inches of an acre of soil, while alfalfa added 1,195 pounds. Alfalfa continues to add to its root system in a healthy crop up to the sixth year. Consequently considerable organic matter is added by this crop, much of which is below the six-inch level. A comparison of the organic matter left by brome grass and by alfalfa was also made at the Dominion Reclamation Station, Melita. The total organic matter in the soil where brome grass had been growing for several years was from 70,000 to 80,000 pounds in the top six inches of an acre of soil, and 40,000 pounds in the 6 to 12-inch level. Where alfalfa had been grown on similar land for an equal period of time there was 30,000 to 50,000 pounds in the surface six inches and 23,000 pounds in the second six inches. The grasses, it is quite evident, add considerably more organic matter, especially to the sur-

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At right: Roots from two clumps of Marquis wheat.

Below: Demonstrating the value of couch grass as a fibre restorative.

[Photos University of Saskatchewan.]

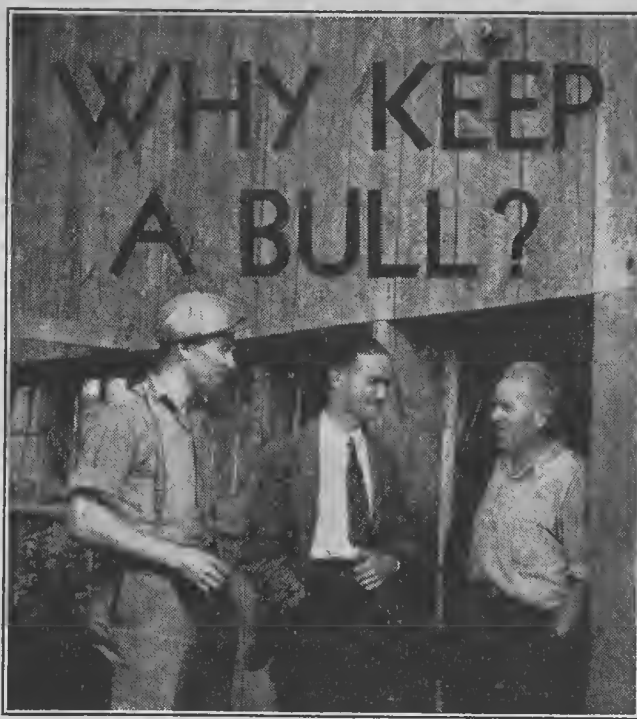


“WHO likes looking after a bull? . . . You can keep an extra cow in that stall . . . It costs approximately \$100 a year to keep a bull, or the cost of inseminating 20 cows. . . . Five of the six bulls in service are qualified to sire stock for the British Holstein trade. . . . Remember—artificial insemination will not cure all your breeding problems, but a qualified technician of the calibre employed by the Association can detect trouble and promptly prescribe treatment and restore the usefulness of a fair percentage of shy breeders.”

This is part of the argument advanced by the Maple Cattle Breeders' Association, Maple, Ontario, who organized for artificial insemination and began to serve a 20-mile area centering on Maple, in June, 1945. Late the same year, they opened membership in the Association to the whole of York County and six months later extended the area served to Simcoe County. By November, 1946, 260 members had joined the Association with average herds of 10 to 14 cows each, with a total of about 3,000 cows in all. About 80 per cent of the members no longer keep a bull of their own.

I had heard of this interesting artificial insemination centre several months before I visited it. I knew only that it was located at Maple, north of Toronto, and its members were principally breeders of purebred Holsteins, and that it was attempting improvement by means of line-breeding. This latter fact was a matter of special interest, because one of the problems to be solved in connection with artificial insemination is not merely the matter of technique, nor even the use of high quality sires beyond the reach of the average breeder; but the more fundamental one of good, consistent improvement by means of a sustained and intelligent breeding program. Other groups of purebred breeders have organized for artificial insemination, and in some cases have paid fabulous prices for unproven sires—even for calves—but here was the first group I had heard of who proposed to follow line-breeding, and apply this program to the herds of a large number of members.

Enquiring in Toronto, I was directed to George C. Jackson, Downview, which was fortunate. Mr. Jackson's Lonelm Holsteins are well and favorably known



F. C. Clark, District Agriculturist (centre) talks it over with Technician Allan Wilson (left) and Manager J. S. Stroyan, of the Lower Fraser Valley A. I. Association.

York County, Ontario, Holstein breeders follow line-breeding in a 3,000-cow artificial breeding association

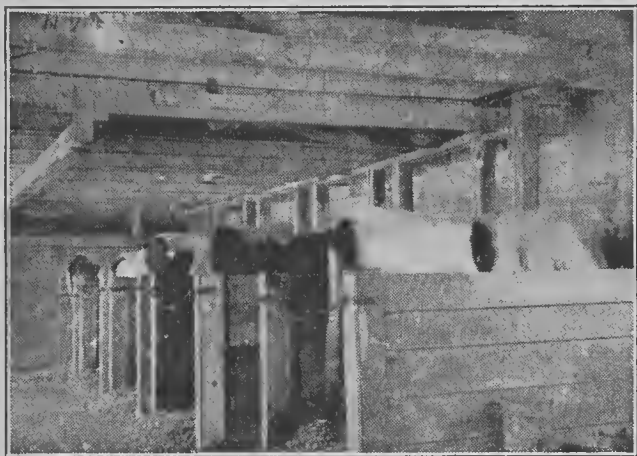
in Canada and the United States. His senior herd sire, Lonelm Texal Fayne, though still in service in 1946 at over 15 years of age, had 39 qualified daughters. More interesting still was the fact that six sons of this sire had been purchased by the Maple Cattle Breeders' Association for their line-breeding program. All six were out of dams by Montvic Rag Apple Baron 2nd that averaged 18,318 pounds of milk, testing 4.04 per cent and yielding 737 pounds fat. Each of these dams is a Lonelm Holstein.

Mr. Jackson took me to the farm of Wilfred Keffer, President of the Association, who joined us in our visit to the breeding centre. There we met Dr. C. R. Reeds, chief technician, and the caretaker, A. M. Bowes. Two other full-time technicians and one part-time are employed. The barn is a remodelled building, clean and well kept. I took for granted adequate laboratory facilities, without which, I suppose, a trained veterinarian would not work.

I FOUND that breeding results had been quite satisfactory to date, the conception rate on first service having been about 60 per cent. Actually, from January 1 to June 30, 1946, the record was 52 per cent conception on first breeding, 78 per cent after second breeding, and 94 per cent after third. Semen is used for two days, each collection from one bull serving for approximately 60 cows, at a dilution of approximately one to eight. I was told that good semen can be used at one to 20; that it would be possible, if necessary, to service as many as 200 cows with one collection. I have since learned that three Cornell University investigators have studied more than 3,000 inseminations made with semen diluted with up to 50 parts of egg yolk-citrate diluter, and found no notable difference in the fertility of such diluted semen. I have also seen figures indicating that microscopic examination of semen indicate as many as one billion sperms per cubic centimeter, at least half of which would be alive and active in the case of healthy, well-cared-for bulls. Thus, if a cubic centimeter of semen could be equally divided into 1,000 parts, each part would contain, in all probability, a minimum of 500,000 live sperms. As yet, of course, such calculations are highly theoretical, but they do point to the possibility of extending, to an almost unbelievable extent, the breeding efficiency of an outstanding proven sire.

I found that each of the bulls in the Maple Association had been used to breed 450 cows in six months. Some variation in the conception rate was discovered as between bulls. One of them was down as low as 55 per cent, but most of them ranged between 70 and 74 per cent. At the time of my visit, only four bulls were being used, the remaining two being rested,

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The six sires in use by the Association at Maple, Ont.

ARTIFICIAL insemination of livestock is quite new in North America, but the claim is made that the first practical experiment occurred 600 years ago, when, in the 14th century, an Arab chief artificially inseminated a mare. Not until 400 years later was the first scientific research done on the subject. This was in Italy in 1780, where L. Stallanzani worked largely with dogs. It was a Russian scientist, Professor Eli Ivanov, who discovered the effect of lower temperatures in the preservation of semen.

Before World War II, Denmark had developed artificial breeding groups on a large scale and, since the war ended, the government of Denmark has resumed emphasis on this method of livestock improvement. In the United States, the first organized group was formed in the State of New Jersey in 1938, and now hundreds of thousands of dairy cattle are artificially bred each year. Some very large breeding centres have been developed. In the United Kingdom, also, research and experimental work has been under way for some years, and about a year ago the British Government formally sponsored one or two research stations while, in addition, one or more fairly large-scale breeding centres have been developed.

The first work in Canada was done in 1935 at Winnipeg, and today there are approximately 30 A. I. centres throughout the Dominion. The largest Canadian A. I. group is located in the Lower Fraser Valley of British Columbia, where the Lower Fraser Valley Artificial Insemination Association has been in actual operation since February 21, 1945, with headquarters

CANADA'S BIGGEST A. I. CENTRE

at New Westminster. This 6,000-cow Association, involving approximately 1,700 members, operates from a 22-acre property purchased for the purpose, on which it was proposed to erect a suitable barn for the bulls, in addition to a house for the Manager, already on the property.

When I visited this Association last summer, the barn had not yet been erected, and an old barn on an adjoining property lent for the purpose, was in use. Adjacent to the old barn was a smaller building used as office and laboratory. In view of the fact that the Fraser Valley is an intensive milk producing area, the four principal breeds of dairy cattle are all maintained, and of the 15 dairy sires at the A. I. centre, four were Guernseys, five Jerseys, four Holsteins and two Ayrshires. Of these, two had been lent by breeders, and 13 supplied by the Dominion Government.

The temporary character of these old buildings necessarily imposed a considerable handicap on the efficiency of the Centre, though plans had been



Testing laboratory of the Lower Fraser Valley A. I. centre.

drawn up for new buildings on Association property to be erected as soon as materials and equipment could be secured. The Association was, meanwhile, forced to keep the bulls with comparatively little exercise, a circumstance which could easily lead to a considerable amount of difficulty and dissatisfaction. Manager J. S. Stroyan told me that so far they had got along quite well, but were keeping their fingers crossed and hoping for the new buildings and equipment.

THE Association maintains five service centres and six technicians, one of whom is a spare. One technician is located at Cloverdale, serving the Surrey and East Delta area; another at Walnut Grove for the Langley area; a third at Abbotsford serving the Matsqui area; a fourth at Dewdney for that district; and a fifth at Hammond, serving the Maple Ridge district. Of the five service areas, Langley and Abbotsford each had 400 members or over, Surrey 360 members, and the other two around 250 each. Two of the five areas are on the north side of the Fraser River.

In an Association of this size, between 40 and 50 cows (around 75 per cent grades) are bred daily. This necessitates the shipment of semen to each service centre at least every other day. Packed in ice, it travels by bus to the four outlying points, and is used at the rate of about 1 c.c. for each insemination. Fifteen c.c. of buffered semen every two days will serve to breed eight to ten cows daily in each area. A

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Lower Fraser Valley dairymen
breed 6,000 or more cows annually
through one 1,700-member association

By H. S. FRY

THIS COMMUNITY HAS A HEART

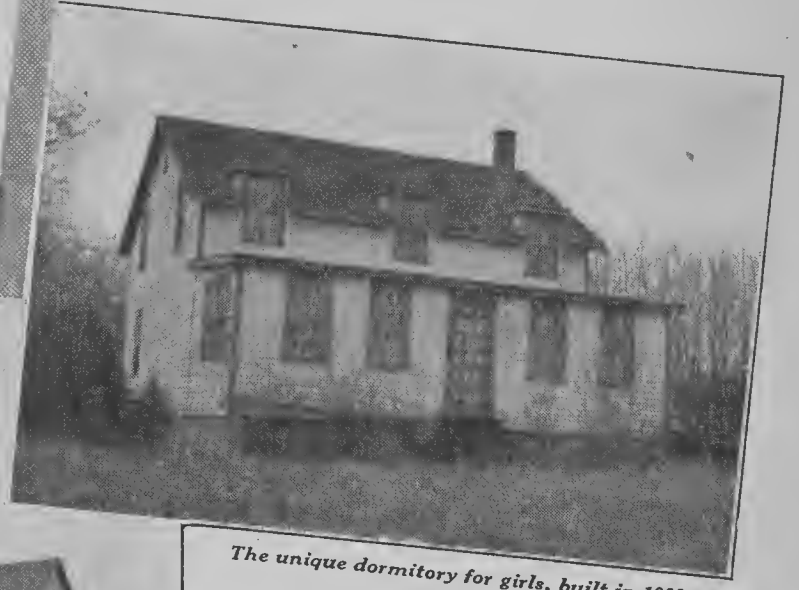
By H. S. FRY

tion station, established by the Dominion Department of Agriculture.

In earlier years good use was made of purebred herd sires provided by the Dominion, though the community now has its own sires for the most part. From one to three short courses are generally held each winter in the four or five-roomed school; and the community has also taken advantage of the farmstead planning and home beautification service provided by the Provincial Department of Agriculture. Field days for discussions of agricultural topics are welcomed by the community each year. The district also has an agricultural improvement association; and I located, back of the dormitory, what appears



Dickson's new school, erected in 1938.



The unique dormitory for girls, built in 1933.



The Lutheran Church at Dickson has been the mainspring of community development. Inset: Fred Pedersen, pioneer.

to be a combined recreation area and fair grounds.

THE first Lutheran minister was Rev. J. C. Gundeson, and for a number of years services were held in the Gundeson home; later in the school, and finally in the new church. Of the Gundeson family, three daughters at least still live in the community. One married a community leader, A. N. Dyrholm, and a second, Miss

Elsa Gundeson, is Principal of the school. The Dickson High School is the product of vision and perseverance. Backed by Rev. Paul Nyholm, then minister, and by Miss Gundeson, the idea gained support from members of the community, though a number

thought that such a project was too big a job to tackle. However, the two enthusiasts interviewed the Department of Education in the spring of 1930, and that fall the teaching of grades nine and ten was begun under the auspices of the local public school board.

For the first five years, high school classes were held in the basement of the church. In the meantime, grade eleven courses had been added in the second year and grade twelve in the third. Also, the perennial high school problem of rural Canada had asserted itself; namely, the provision of residential accommodation for pupils, especially girls, who lived outside the public school district. Something had to be done about that. There had been no tax revenue on which to finance the high school—nothing except the Government grant and tuition fees. Nevertheless, the school had succeeded, and something had to be done about accommodation.

The only way to provide it was on a voluntary basis. Contributions were

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The heart of this progressive Alberta rural community is to be found in the influence of the Lutheran Church



Miss Elsa Gundeson has sparked the educational program.

however, or perhaps because of it, this is a community of home-makers. During the first years, we couldn't make money very fast, because we had to clear the brush before planting."

I should think it safe to say that the Church is, in reality, the heart of the community. The people are mostly of Scandinavian origin, with a few Americans and English. The area is comparatively isolated, and there is still quite a bit of uncleared land. Buildings for the most part are modern, neat and generally well painted. Dickson itself is a mere hamlet, with the church its most outstanding, important building.

The soil of the area is not well drained, and the total cost of drainage provided over the years has probably been more than the cost of the land. The community has the first rural high school established in the Province of Alberta. It has built a dormitory for high school girls. Some three or four years ago the Provincial Department of Agriculture put a seed cleaner in the district, which is adapted to forage crop production. Though never very active in junior boys' clubs, there are active girls' clubs, and the community has worked closely with the District Agriculturist. The area has an illustra-

I SUPPOSE families, communities and nations tend to reflect the thinking and the attitudes of the people who compose them.

This may, in reality, mean much the same thing as saying that individuals are strongly influenced, and their habits and general outlook substantially affected, by environment. In any case, it is probably true that heredity as an influence on the activities and thinking of the human being is of minor importance. Environment in its broadest sense includes such influences as religion, education, political systems and economic status, and it is the interplay of these forces which, when mixed with the many facets of the human character, produces communities of one kind

here and another there.

Perhaps because rural folk are so dependent on the community, it has seemed to me that community enterprise, character and spirit are more important in rural areas than in urban. A family in a large city, with the aid of a few chosen friends and a wider and more scattered circle of acquaintances, can lead a happy existence without being on speaking terms with more than their closest neighbors. They rely on the enterprise of strangers for entertainment; the co-operation of like-minded persons for organized religious and other association; and on elected representatives and civic employees, whom they have never seen, for civic law and government. This is not true of the country. Farmers and their families cannot slough off and completely disregard the people of their communities whom they do not like. Rural communities develop natural boundaries, and the people within them must deal with each other in church or school, in exchange of work, the maintenance of roads, the control of weeds, in co-operative organizations, and in all the common duties of citizenship and neighborliness. Consequently, no individual family may escape some share of responsibility for community development.

Yet—between rural communities, as between nations, there exist great differences in character and outlook.

THIS is a story about an Alberta farm community, the Dickson community, some 20 miles west of Innisfail. It is not the complete story, because this could only be written by someone who has known the Dickson people thoroughly and could put all the pieces together to present a true picture. Perhaps Miss Elsa Gundeson, school principal and home-grown product, could do it, or Fred Pedersen, one of the three or four original pioneers, to whom I was directed by several people when I began to make enquiries. No outsider could write that kind of story, not even J. E. Birdsall, to whom I am indebted for suggesting that I visit the community and who was for some time District Agriculturist at Red Deer, from which the Dickson area is served by the Alberta Department of Agriculture.

No story of the Dickson community would be correct which did not give full credit to the Lutheran church. The community is predominately Lutheran, and indeed, the first three families who reached the settlement in 1903 from Omaha, Nebraska, had organized a congregation before they left Omaha. "We were determined," Fred Pedersen told me, "that if we could not found a congregation here, we would not stay. In addition to the influence of the Church,



Ross gets into difficulties and Danny meets a stranger on the trail

valleys 'way back of Stoney Lonesome. The hounds hit a trail, and went barkin' off on it. For the life of me I couldn't make out what they was chasin'. I let 'em go, and kept as close behind 'em as I was able. They treed and I come on 'em. Do you know what they had up, Danny?"

"What?"

"A big, spittin' fisher cat," Ross grinned. "He was only 'bout ten feet up in a pine, cussin' the dogs and tellin' 'em what he was goin' to do to 'em if he got a mind to come down. When I got there he run 'way up in the tree and hid. I could of had him though, and would of 'cept his pelt wasn't prime. You should of seen him, Danny. He's black as the ace of spades, and silky as all get out. He'll be worth a sight of money when the winter puts a pelt on him. I'm goin' back there, come mornin', and spy out some of his runs so he'll be easy to catch."

"Gee," Danny sighed. "I'd like to have been with you. I haven't seen a fisher cat for two-three years."

"They ain't so plenty," Ross observed. "But I'd as soon kill what I run across on account they kill so many other things. When this one gets primed up, we'll have us a fisher hunt."

They ate supper, cleaned and repaired a faulty ejector on Ross's

rifle, and went to bed. Danny slept late, but Ross was up with the dawn and off to locate some of the fisher's runways. Red, who couldn't understand why Danny should suddenly decide to loaf about the house instead of going as usual into the more interesting woods, came in to paw at his bed and wake him up. Danny grinned, and before he dressed stopped to take the bandages from his ankle. Gingerly he rested it on the floor, and finally put his whole weight on it. It pained a little, but he could stand and walk with only a slight limp. Danny mixed pancake batter, and was about to cook some pancakes when Red growled warningly. There was the sound of someone walking.

"Hey, Danny," a voice said.

DANNY looked around in surprise. His visitor wasn't the casual trapper he had expected, but Mr. Haggin. The owner of the great Wintapi estate wore a pair of blue jeans, a faded grey shirt, and his sockless feet were encased in leather moccasins.

Danny blurted, "I didn't know it was you, Mr. Haggin."

"Yup," Mr. Haggin grinned. "I'm going away tomorrow, heading south, and thought I'd drop in on you."

"You're mighty welcome."

Mr. Haggin looked worn and tired, as he glanced around the neat cabin. Danny watched, puzzled. Mr. Haggin had money enough to buy himself anything he wanted, and he'd hardly look enviously at a trapper's cabin in the beech woods. No, it was not exactly that. Rather it was as though Mr. Haggin had wearied of something, and come here to find peace. Money, Danny decided, could not buy everything. Then Mr. Haggin looked at Red, and the weariness faded from his eyes. He spoke enthusiastically.

"If he'd been in that shape when we took him to New York he'd have won best in show, Danny."

Danny relaxed. Mr. Haggin wasn't a millionaire any more. He was like Ross, or any other man who could know and love a good dog. But Mr. Haggin knew more about some kinds of dogs than Ross had ever dreamed. Very clearly there rose before Danny the vision that was never far from him. He remembered the dog show, down to the least detail, and the great triumph he had felt when Red won best of breed. But still there seemed to be something lacking from that show.

"Red looks right good," he agreed. "I was thinkin' . . ."

He hesitated, and Mr. Haggin asked, "What were you thinking?"

"Why, I was thinkin' that there'll be more dog shows to come," Danny said lamely.

"You and I think alike, Danny. Do you remember the little bitch that went up with Red for best of breed?"

"Oh!"

"Yes," Mr. Haggin sighed. "And there still isn't enough money to buy her from Dan MacGruder. But I'm keeping my eyes open. As soon as I can get hold of a good enough bitch I'll send her up here. There'll be dog shows next year, and the year after, and twenty years from now."

"Yes, sir," Danny said soberly. He glanced at the stove and asked, "Would you like some breakfast?"

"Sure thing," Mr. Haggin said. "What have you got?"

"Flapjacks."

"Wahool! It's been a long while since I've sunk my teeth into a good mess of flapjacks. My cook calls 'em—never mind. It's an insult. Have you got maple syrup too?"

"Pappy tapped the trees and boiled the sap himself."

"Lead me to it!"

Danny cooked a great platter of flapjacks, and put them on the table. He opened a can of maple syrup, poured a pitcher full, and set it before Mr. Haggin. Mr. Haggin took a plateful of the flapjacks, spread butter on them, drowned them in amber maple syrup, and ate. He took another plateful, and ate more slowly while Danny told him all about Red, the

BIG

Red



FOR a week, after Ross had helped him back from the side of Stoney Lonesome, Danny hobbled about the cabin with his right ankle swathed in bandages that were regularly soaked in an epsom salt solution. The Picketts could seldom afford a doctor, and even though they now had the fifty dollars a month that Mr. Haggin was paying Danny to take care

of Red, it never occurred to either of them to pay another man to do what they could do themselves.

Every day Ross went into the hills, sometimes taking his hounds with him but more often walking the lonely trap-lines that he and Danny had already staked out, his eyes alert for possible improvement. Ross seldom rested, and never wasted time. As far back as Danny could remember he had been doing something, trapping, varmint hunting, digging ginseng, picking berries, collecting wild honey, or some of the dozen other jobs to which woodsmen turn their hands. Ross had always secretly dreamed of having fine things, luxurious things, and from the start was doomed never to get them. But he never seemed to recognize the fact that he was doomed, and always tried to bring as much as he could into the shanty in the beech woods.

Red stayed with Danny, loafing around the cabin, going out to make restless tours of the clearing, or venturing a little way into the beech woods. But he never got very far away or stayed very long. Wild to be off and hunt partridges, the big setter still waited loyally until Danny was able to go with him.

Danny had skinned the big lynx that had stalked him throughout the long night on Stoney Lonesome when his foot was pinned beneath the dead buck's antler. The huge pelt was on a stretching board. There was a twenty-dollar bounty on it, but the big cat had been killed so early in the year that its pelt was all but worthless. It was going to be Danny's after the bounty was collected, and he planned to make it into a wall decoration.

At twilight on the seventh night, Ross came stalking into the clearing with the three hounds trailing behind him. They crawled to their kennels, were fed there, and then Ross came stumbling into the house. He sat down, and smiled wearily at Danny.

"How'd it go?" Danny asked.

Ross shrugged. "All right. I kept the hounds off the trap-lines on account I don't want the traps smelled up with dog smell, and we went into some of them



big setter's partridge hunting, and all the hopes he had for him. When he was finished, Mr. Haggin leaned back in the chair.

"Now I've got something to remember," he said. "But I've also got to go. I'll see you in the spring, Danny."

"Yes, sir. I'll take good care of Red."

"I knew that three months ago," Mr. Haggin said. "Good luck, Danny."

They shook hands, and Mr. Haggin strode back down the Smokey Creek trail. Danny sat on the top step of the porch, watching him go. Red came to sit beside him, and Danny pulled his ears. He was vaguely troubled because the memory of the dog show would not leave him, and he still was unable to identify positively the thing that should have been there and was not. It seemed to be another dog. Of course, no matter what happened there was never going to be another dog like Red. But . . .

Danny stamped back into the house and washed the dishes. He went to the woodlot, took a buck-saw from its hanger, and began to saw into stove-length blocks the trees that Asa had dragged out of the woods. Red sat near, watching. Danny worked doggedly on, trying by hard labor to drive from his mind the troublesome thought that refused to be driven. It was four o'clock in the afternoon when Red, who had been nosing around the woodpile, barked sharply. Danny looked up and saw Ross run out of the beech woods into the clearing.

ROSS'S hat was off, and he carried his jacket in his left hand. His face was red from exertion, his eyes glowed with excitement. Red ran to meet him. Danny dropped the buck-saw and stood erect. Ross panted to the woodshed, and leaned against the door to catch his breath.

"Danny . . ." he said,

Danny grasped his arm, and looked concernedly into his father's face.

"What's wrong, Pappy?" he asked.

"I—I went back in the ridges," Ross gasped. "I went back to look for the fisher cat, and I found his runs. But I was standin' on the side of a little stinky gully, and the wind was to me. I looked over and I saw that big hellin' bear, Ol' Majesty. He ain't been in these woods sinst you and that Red dog run him out. But he's here now! He was feedin' off a dead deer, and when he finished feedin' he crawled in a hemlock grove. Danny, that bear's got his belly full and he ain't goin' to move before mornin'. That Red dog bayed him once, and he can do it again. I'll take him up there come dawn and put an end to that raidin' bear!"

Danny turned away. Old Majesty, unforgiving and terrible foe of every man in the Wintapi, was back again. Soon he would be raiding again, and this was a chance to kill him. He should be killed. Danny looked at Red, and swallowed hard. Red had bayed Old Majesty once, and might do it again. Only . . . Danny straightened. Ross had his heart set on making Red a varmint dog, and Danny had no intention of letting him hunt varmints. That issue had to be faced some time, and it might as well be now.

"I reckon not, Pappy."

"What!"

"I—I guess Red ain't goin' to be no varmint dog."

"Huh! What use would you put such a dog to?"

"Well, he could hunt partridges."

"Them little brown birds? You're funnin'! You wouldn't waste such a dog on partridges."

Danny said desperately, "Look, there's some things a man can do and some he can't. Makin' Red hunt varmints would be like makin' one of Mr. Haggin's blooded horses do Asa's work. It's right in Red's blood to be a partridge dog."

"Oh. Did Mr. Haggin tell you to make him hunt partridges?"

PART III

by

JIM KJELGAARD

"Mr. Haggin didn't say anythin'," Danny said miserably. "I just know Red's a partridge dog."

"How do you know it?"

DANNY tried and failed to put into words some of the things he had learned on his brief visit to New York and in his association with Mr. Haggin. Always before he had accepted Ross's notion that a dog was a dog, something to be bent to the will of its master. But that wasn't so. For thousands of years there had been special dogs for special functions, dachshunds for entering badger holes and subduing their occupants, greyhounds for coursing swift game, malemutes for sledge work, and only when you knew something of their blood lines could you really appreciate the fascinating story of dogdom. It was in Red's blood to hunt birds, and partridges were the only game birds in the Wintapi. Making him hunt anything else would verge on the criminal. But how to explain all this to Ross?

"I just know it," Danny said miserably. "Red hunted the bear only because he thought it was goin' to hurt me."

"Well, if that's the way you feel . . ."

Ross went stiffly into the cabin and prepared supper. After eating, he helped wash the dishes and took his accustomed place beside the stove. He ignored Red when the big setter tried to thrust his nose into his cupped hand and, sensing the rebuff, Red went back to Danny. Danny sat moodily alone. Ross was deeply hurt. He would not have been had Danny been able to furnish a single good reason why Red should be a partridge dog. But Danny himself

knew of no reason save that Red had been born to hunt partridges. And that sounded silly.

They went silently to bed. The next morning, when Danny got up, Ross had already gone. He had taken one of the hounds with him. But he hadn't asked Danny to go along.

Danny's heart was heavy within him while he ate a lonely breakfast. But after eating, he opened the door and a flood of the sparkling October sunshine came spilling in. Red rushed outside, and went over to sniff noses with Old Mike. He came galloping back to Danny and reared to put both front paws on his chest. Danny pulled his silky ears, and stroked his smooth muzzle. If only Ross was there to see Red as Danny saw him! Then the autumn and the sunshine worked their magic. It was enough to be afield with Red. Ross would understand in time.

Crisp, frost-curved leaves crackled underfoot when they entered the beech woods. Red went racing among the trees. But when Danny whistled he stopped, turned around, and came trotting back. For a space he walked beside Danny. Then he leaped a few feet ahead and stopped in his tracks.

He stood with his body rigid and his tail stiff behind him. With a quick little rush he went a dozen feet and stopped again. Then in a slow, steady walk, he advanced twenty feet and stopped on a knoll. He raised one forefoot, stiffened his body and tail.

"Easy. Easy there, Red," Danny murmured, very softly.

The dog trembled, but held his point. Danny leaned over, and as quietly as possible brushed the leaves from a half-buried limb. He hurled it into the brush at which Red was pointing, and a lone partridge thundered out. Red took three nervous steps forward, but halted at Danny's, "Back here, Red."

Danny's knees were suddenly weak and he sat down. Red came over with wagging tail and loling tongue, and Danny passed both arms about his neck. Starry-eyed, he sat still, in his mind living and re-living the scene he had just witnessed. It was a thrill to hear hounds strike a trail, to listen to them baying their quarry, and their final frenzy when they cornered it. But this! The hounds were good workmen, but the setter was an artist. And not even Ross had suspected how keen his nose really was. Danny rose.

"Come on, Red."

They found three more partridges. On the second, Red broke a little. But on the third he was more steady and the fourth he held perfectly. Danny gasped anew each time. Red was scenting the birds at such distances and holding them so well that even seeing it was hard to believe.

But four were enough without any shooting. Making any hunt tiresome was a certain way to spoil a dog. Danny took Red for a walk high up on Staver Plateau,

where only sweet fern grew and there were few grouse. A sullen resolve that was forming in his mind reached fruition there. If Ross didn't want him on the trap-lines he certainly wasn't going to beg to be taken along! He didn't have to trap. The fifty dollars a month Mr. Haggin was paying him was more than enough to meet his share of their common expenses. He swung down the plateau toward home.

THE early autumn twilight was just dimming the day when he arrived. A light in the window told that Ross was there before him. Danny opened the door, and Red slid unobtrusively in to lie on the floor. Ross, who was standing over the stove, turned and spoke briefly.

"Hi-ya."

"Hi-ya," Danny replied, and busied himself setting the table. From time to time he stole a furtive glance at Red, and once looked with mute appeal at his father's back. But his eyes squinted slightly and the same stubborn mouth that was Ross's tightened in grim lines. Once more he looked at Ross's back, and found the determination not to speak until his father did melting away. Danny tried to make his voice casual.

"Where'd you go today, Pappy?"

"Out."

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Across the gully, his grey coat blending with the grey bark of a huge beech tree, Danny saw the buck.



Illustrated by
CLARENCE TILLENIUS

Professionals and laymen co-operate to fight a disease, not serious up to now, but which represents a potential menace.

MANY a stubborn battle is being waged on the health front of Canada and there is none more determined than Alberta's battle against the killer tick. This small but deadly foe is the Rocky Mountain spotted fever tick and it appears with the buttercups attacking both man and beast during the months it goes on the war-path.

But Alberta's public health authorities have challenged these disease-carrying "bugs," and "shock troops" in the form of embryo doctors are thrown into the attack with the general public in the "tick belt" co-operating.

In the southwest range country where the infestation of ticks is the heaviest these virus spreading "bugs" are just plain ticks but to Alberta's health minister Hon. W. W. Cross and his No. 1 tick fighter, John H. Brown, M.Sc., they are—saying it scientifically—*Dermacentor andersoni*.

Alberta has a variety of ticks but this spotted fever tick is the most important, dangerous and widespread. True, ticks are where you find them but in Canada they are most prevalent in southern Alberta as far north as the Red Deer River and west from the Medicine Hat district to the Rocky Mountains. The tick is found also in south-eastern British Columbia and it is the belief of some students of the problem that spotted fever is present in parts of Saskatchewan but perhaps not yet recognized as such. In fact ticks have been found in southern Saskatchewan and in southwest Manitoba. You see, these little creatures get around.

Speaking again about names, this tick has a number of them. And that is unfortunate for it proves confusing to the public. Some Alberta folks call it the sage tick, others the sheep tick or the fever tick. It all depends on where you may be regionally. In the mountains it's the wood tick, on the prairies the sage tick very often, while many ranchers in telling you about the pest will call it the sheep tick. It really doesn't matter—it's the spotted fever tick they are talking about and it's a case of a "tick by any other name . . ." as those familiar with ticks know.

These ticks are interesting. There is a sex differentiation in color with the males showing a whitish grey and the females the same color but also sporting a small grey crescent on the anterior part of the back. There is nothing glamorous about them. The adult is about the size and shape of a bedbug. Put another way, the tick ordinarily is similar in size to a small kernel of wheat but when it becomes engorged it swells to the size of a large navy bean. But remember, only the female puts on extra weight, the enlargement of the body being caused by the developing eggs and the blood she has taken in for food.

In the Alberta campaign there is only one tick involved—the spotted fever tick. It is well to keep that in mind, also another point: the bite of this tick may cause death.

In spotted fever, the most common of the tick-borne diseases, the death rate is high, between 20 and 30 per cent in Alberta. In the neighboring state of Montana, where a very severe type of Rocky Mountain spotted fever occurs especially in the Bitter Root Valley, the fatality rate is about 75 per cent. This highly fatal type occurs also in Wyoming and Idaho.

In spotted fever, for which there is no known treatment, the disease causes high fever and lung and kidney involvement. The blood system is also affected and the small capillaries rupture causing discoloration of various areas of the body. Death is caused by

these complications, the later stages being extremely painful.

Tularaemia, a second disease spread by these ticks, is caused by infection contracted from infected small, wild animals, usually rabbits, or from the bite of infected ticks. There are several types of tularaemia but the most common is that in which the site of

infection—the point in which the germ penetrates the skin—is marked by an ulcer. Symptoms often appear suddenly and are generally accompanied by alternate periods of chilly sensations and fever. Headache may occur and profuse sweating. There is no specific treatment for tularaemia but physicians may in these cases, as in the other tick-borne diseases, give the patient some relief. In fact, in all serious cases of disease brought on by these creatures a doctor should be called at once.

Tick paralysis, the third disease involved in this Alberta tick campaign, is quite different from the other two diseases noted. The tick during feeding produces a condition of paralysis. Whether this is caused by the mechanical bite is not known, nor is it known whether it is traceable to the toxin injected during the feeding or a virus organism inoculated into the individual. Death is caused through paralysis of the upper respiratory tract.

It is against this trio of tick-borne diseases, all of which are painful, that Alberta is waging war and it is essentially a job of prevention.

Science is throwing a lot of light on this plague.

For instance, it is known that rabbits and small mammals are carriers of the infection. But the disease does not affect them. Hence they become dangerous reservoirs. During the complicated life cycle of the tick, each stage requires blood meals and the infection is picked up from the reservoirs. Moreover, the spotted fever organism can be passed on by the female tick through her eggs to her offspring.

THE first recorded case of spotted fever in Alberta

was fatal. The patient, an elderly farmer, lived in Manyberries Creek, an area now known to be heavily infested. That was back in 1935. The farmer was stricken early in July, was admitted to hospital in Medicine Hat on July 25 and died July 30. Three other cases have been fatal out of six reported. This you may say is not an alarming toll but actually it is alarming for it is indicative of what might have occurred had steps not been taken to cope with the outbreak.

Since the provincial health authorities tackled the problem in a big way there has been a lot of probing into the past for evidences of spotted fever and the prevalence of Rocky Mountain spotted fever ticks. It has been found that specimens of these ticks were discovered in the Pincher Creek district as early as 1912. There is mention of them again in 1915 in the same area. At that time little was known of these ticks in southern Alberta but across the border in Montana they were known and dreaded in the rip-roaring '70's although the mode of transmission had not been discovered. In later years western Montana became the centre of a highly fatal type of this disease and it was at Hamilton, Montana, that the United States Public Health Service established the Rocky Mountain laboratory back in 1921 to study the whole Rocky Mountain spotted fever problem. Today that institution, directed by Dr. R. R. Parker, leads the world in work in this field.

The outstanding contribution to the tick problem by workers at Hamilton has been the development of preventive vaccine. This vaccine is prepared from the tissues of infected ticks and was the first vaccine of this sort to be used for human administration, Dr.

Parker states. For the first few years the cost of manufacturing the vaccine was very high—\$20 for enough to immunize one person. Production was small, at the first only enough for a few hundred persons, then a thousand.

Today enough vaccine is produced annually for 140,000 persons and the cost per person has been reduced to about one dollar. For the manufacture of this vaccine millions of tick eggs are hatched each spring and from 1,000,000 to 1,500,000 ticks are reared through the larval and nymphal stages to the adult ticks, which are necessary in making the vaccine. The vaccine is distributed to all parts of the United States, Canada and also Brazil where there is a similar problem. The Hamilton "lab" is the only place in the world where the vaccine is made.

IN recent years scientific research has sought other means of producing an effective vaccine, one that is cheaper and less tedious to produce. Dr. H. R. Cox of the laboratory has now developed such a vaccine prepared from the thin membrane which surrounds the yolk sac of chicken eggs. Spotted fever virus is inoculated into the yolk of the chicken eggs which have been incubated several days and the small bacteria-like organism which causes spotted fever multiplies in great numbers in the membrane of the yolk sac. A few days after the egg is inoculated, the embryo dies and the yolk sac is removed from the egg and used in making the vaccine. It costs only a few cents for one person and can be manufactured in much larger volume than the vaccine made from infected ticks.

Speaking of the disease historically in western Canada, J. H. Brown says: "We have no record of spotted fever among the earlier frontier folk of this region. However, there is no doubt in my mind that spotted fever infection did occur but was not recognized. From a study of Indian teepee rings, I have deduced that the plains Indians were familiar with the fact that ticks caused diseases. My reason for saying this is that the teepees have a summer occupancy and are built high on the banks of the coulees and never in the coulee bottoms.

"As is known, ticks prefer the thick vegetation down in the coulee bottoms; seldom are they found on the prairie proper. Moreover, from old records we have cases of sickness which indicated the probability that they were spotted fever."

Following the first Alberta reported case in 1935—how many unreported cases there have been no one knows—two more cases were reported also from Manyberries. One was fatal. These developments were followed in 1938 by the inauguration of the government's Spotted Fever Survey with Manyberries the focal point of attack.

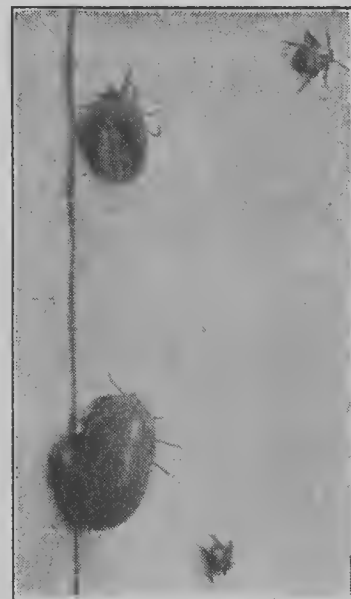
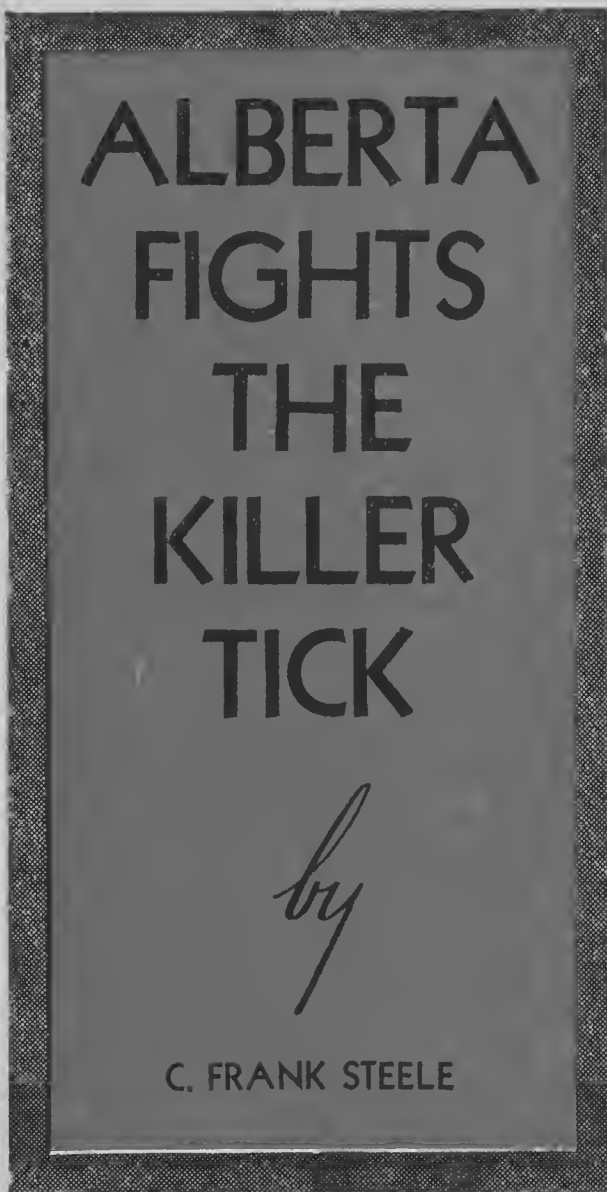
Why the southeast Alberta short grass area is a favorite grazing ground for ticks is not clear. There has been plenty of speculation. Early settlers pretty much agree that ticks were well established when the ranchers and homesteaders moved in but they agree also there has been a decided increase since 1900. One theory is that the suppression of prairie

fires, which usually occur in May—a period in which the ticks are most active—would result in an increase of ticks while the increase in the sheep and cattle population would give adult ticks more host animals. With the latter theory Brown agrees. He says the larger number of horses, sheep and cattle, along with the native animals such as gophers, rabbits, coyotes and antelope would encourage the increase of ticks.

As for the tick itself, it is an eight-legged creature, that feeds on its host animal by inserting its mouth parts into the skin and drawing up blood. It does not burrow under the skin, either on man or animal. The female gradually increases in size, becoming engorged. She is fertilized

during this period and soon after drops to the ground and lays her eggs. And she is a prolific mother laying from 2,000 to 8,000 eggs in batches of 250. This done she dies. The eggs hatch into tiny "babies" called seed ticks.

These minute but alert creatures crawl onto vegetation, wait for a host, such as a field mouse or ground squirrel and landing a victim proceed to feed and engorge. They then fall to the ground and after a time moult into nymph ticks. [Turn to page 32



Unfed ticks at right. Left: after feeding. About actual size.

By farm men and women who know from experience

THE value of a good windbreak on a prairie farm cannot be overestimated. Its worth lies in the fact that in summer it provides shelter and shade for livestock and poultry, and in winter it holds the driving snow in huge drifts which, when melted by the sunny days of spring, provide moisture for vegetable gardens, flowers, and lawn.

We planted our windbreak in 1904, the second year after our arrival from the Old Country. The trees were maple cottonwoods and mountain ash; and my husband planted them on the east side and, afterwards, on the west side of the farm yard.

There were several thousand of these seedlings, and as the years passed, we added caragana and lilac in and around the lawn. Grandpa in England said, "Plant a tree and you have done something. It will live after you have passed on." Such is the case in our windbreak. The hands that planted it were away from us by 1918, but the trees remain as a living monument for the family.

So my advice to every beginner is, "Be sure to plant a windbreak as soon as possible."—BARNYARD ROSE, Wapella, Sask.

* * *

AFTER my return from the first world war in which I served with the 1st C.M.R. Batt., I purchased in this district a quarter section of land, bare of trees except for a few stunted maples around the original building site.

Being a lover of trees, I started in 1922 with a tree planting program which by 1930 had 11,000 trees growing on my farm. I planted shelterbelts around the buildings, and field shelterbelts in some of my fields. It was a lot of work, but today I feel the beauty of these trees, value to the farm, and protection from the elements have more than repaid me and will continue to pay big dividends.

Does tree planting pay? I would say yes, one hundred per cent.

This winter with its heavy winds and snow, has piled most windbreaks full, more than I have ever seen in my experience. And yet with all the snow, after a couple of days of thaw our fields are bare. If it were not for the poplar bluffs and the windbreaks there would have been very little snow and therefore, no moisture left in the district now. I am quite sure the snow held by the trees will pay large dividends next July in surplus subsoil moisture.

Since 1930 our family have enjoyed all the fruits we could eat; namely, raspberries, strawberries, plums, apples, and lots to spare. This would be almost impossible without the protection of the shelterbelts.

To the many young veterans who are now starting to farm as I did after the first world war, I would say: Lay down a program of tree planting now. You will be pleased you have done so in later life. Plant what you can properly look after each year, on a planned basis. You will be paid many times over in satisfaction later on for a well-made beginning.

Nothing is more solidly representative of western farm life than a set of good farm buildings surrounded by trees of all kinds, which offer shelter and shade to livestock and bring joy to the heart of the owner. In the writer's humble opinion, trees make all the difference between "home surroundings" and "just another farm."—GUY COMPTON, Killarney, Man.

* * *

DECIDEDLY yes, tree planting does pay!

About 36 years ago my father planted a shelterbelt around the farm buildings. This belt is still giving protection from wind and storm. The trees seem to give the home a placid coolness in the short, hot summers. Then the ravages of the northerly blizzards are severely checked. There are no huge snowdrifts around the buildings as I can remember before the trees were large enough. In those days it was head first down a snowbank to get into the stable. Then there was the job of shovelling a path to the woodpile, to the hen house, and to the well after every high wind or storm. I can well remember the top of the pump only sticking out of a snowdrift after a blizzard, or the watertrough buried.

Since the trees grew up it has been decidedly different. Now there is very little evidence of a storm around the buildings. The comfort and protection cannot be valued in dollars and cents. Father and mother worked hard to make the home a place of comfort and beauty. They have passed on now. The second generation is deriving benefit from the protection they planned.

I too, have a shelterbelt around my farm buildings. My belt consists of more evergreen such as spruce on the northwest. The rest of the trees are broad-leaved varieties.

I would strongly urge a more active planting program. If there were more trees and hedges planted along the highways it would save a tremendous amount of expense in snowplowing.

In my estimation time and energy is well spent in planting trees. The cost in money is very small in comparison to the dividends in beauty, comfort and protection in the years to come.—N. G. PATTON, Benito, Man.

* * *

WE always thought our farm shelterbelt paid for itself because it made our home surroundings look attractive, like a little oasis on our prairie farm.

My husband planted the largest number during the dry hard years of depression, drought and dust. He didn't expect to live very long and he thought if I couldn't afford to buy him a tombstone, I should have something to remember him by!

These trees had a most discouraging time struggling for existence. One summer we had no rain at all. They killed right back to ground level. Strange to say, they survived, and now have reached an average height of fifteen feet.

Turn to page 36

Tree
Windbreaks
Pay
Dividends

THE Country GUIDE

with which is Incorporated

THE NOR'-WEST FARMER and FARM AND HOME.
Serving the Farmers of Western Canada Since 1882.

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Rising Prices

The rise in prices is greater in the United States than in Canada but there is genuine concern in both countries about it. It is not confined to the housewife, who finds the dollar shrinking from week to week, but is shared even by leading economists. They ask where this is going to end and they have an answer: If the upward trend continues it will end at best in a business recession and at the worst in a severe depression. Some of the increase in Canada is due to the discontinuation of the subsidies, which means that part of the price has been shifted from the federal treasury to the buyer. But that is only a fraction of the increase. Higher wages and bigger profits account for most of it. In the United States profits are now running at the rate of \$15 billion a year against \$12 billion in 1946 when they were 30 per cent higher than in 1945. In Canada The Financial Post made a survey of the annual reports of 60 companies which revealed that the combined earnings on common shares was 30 per cent higher in 1946 than in the previous year. As for wages, the strategy of organized labor is to get them as high as possible in this period of partial inflation and to hold them there if and when prices come down. But where do consumers fit into the picture? There is a growing tendency for them to curtail buying especially across the line where it came as a shock, here some weeks ago, when it was learned that some textile mills were running on part time and others had closed altogether. It could happen here. President Truman warned American business men, when the controls came off, that it was their responsibility to see that prices did not increase. Later he took some of them severely to task for ignoring his admonition. He intimated that perhaps other means would be used to hold prices within reason. From Ottawa came the warning that some of the controls might be clapped on again if prices were jacked up too much. Both labor and management should know that they can price the country into a depression, with labor out of jobs and business out of profits.

Failure at Moscow

The Moscow conference bogged down in disagreement. For six weeks and four days, at 44 sessions, the foreign ministers labored to fashion a peace settlement for Germany and Austria but they labored in vain. Between Russia on the one side and Britain and the United States on the other yawns a chasm, fathomless in depth and seemingly wide beyond all hope of being bridged by compromise. Between them is a conflict of ideas and ideals which so far has defied any semblance of conciliation. Europe, the birthplace of western civilization, seems destined to be its tomb. For behind this clash of ideologies lurks a physical force which, in potential for destruction, dwarfs anything hitherto released by the mind of man: the atom bomb. Are these differences capable of no other means of settlement than its searing flame?

What time can do to bring the nations closer together no human intelligence can foresee. But human affairs take unexpected courses. The miracle may happen. Some kind of an agree-

ment may eventually be patched up. It is reassuring that there will be an interlude in which the forces for conciliation will have a chance to work. After Munich world events rushed to a climax with bewildering speed. Now the exhausted nations, above all else, want peace to repair the ravages of the holocaust from which they have just emerged. They want the peace to be permanent; they shrink from even the contemplation of atomic warfare. Therein lies the only hope that this civilization will not disappear in a deluge of obliterating fire and of mysterious rays which would doom as deformed monsters, generations of the descendants of those who survived.

The Geneva Trade Conference

All eyes are on Geneva again. There the representatives of 18 nations are endeavoring to work out a new order in international trade. The great objective is to foster world prosperity by preventing economic warfare and clearing the channels of commerce as far as possible of tariffs, embargoes, quotas and other obstructions to navigation. The spade work was done at a conference of experts in London last fall. Since then a committee has been putting the finishing touches on a proposed charter for a body to be known as the International Trade Organization. If substantial progress is made in reaching an agreement on trade policies, the charter will be presented later for consideration and adoption, and the I.T.O. will come into being as an integral part of United Nations. At least that is the high hope.

* * *

The charter, as provisionally drawn up, deals with a great many aspects of international trade other than tariffs, embargoes, export subsidies and the like. The member nations would agree to maintain a high rate of employment by any means they could devise, except the exclusion of goods from other countries. They would keep each other advised of their internal economic conditions and of their external trade policies, so that the government of any country would know what the others were doing, or intended to do, without waiting to hear about it through diplomatic channels or to read about it in the newspapers. There would be no discrimination between countries in international trade, though provision is made for honoring existing trade treaties. Price fixing, boycotting and the division of markets would be outlawed. Cartels would receive attention. The charter dovetails into the Bretton Woods financial arrangements for the stabilization of currencies and exchange. These are but a few of the provisions of the tentative charter. Various provisos, exceptions and allowances for special conditions, make it quite flexible. Apparently experts have learned that their

proposals can be too cut and dried to go down well with the politicians, who, quite properly, have the last word on such matters. And so they do quite a bit of hedging in drawing up tentative documents in an honest effort to anticipate every objection.

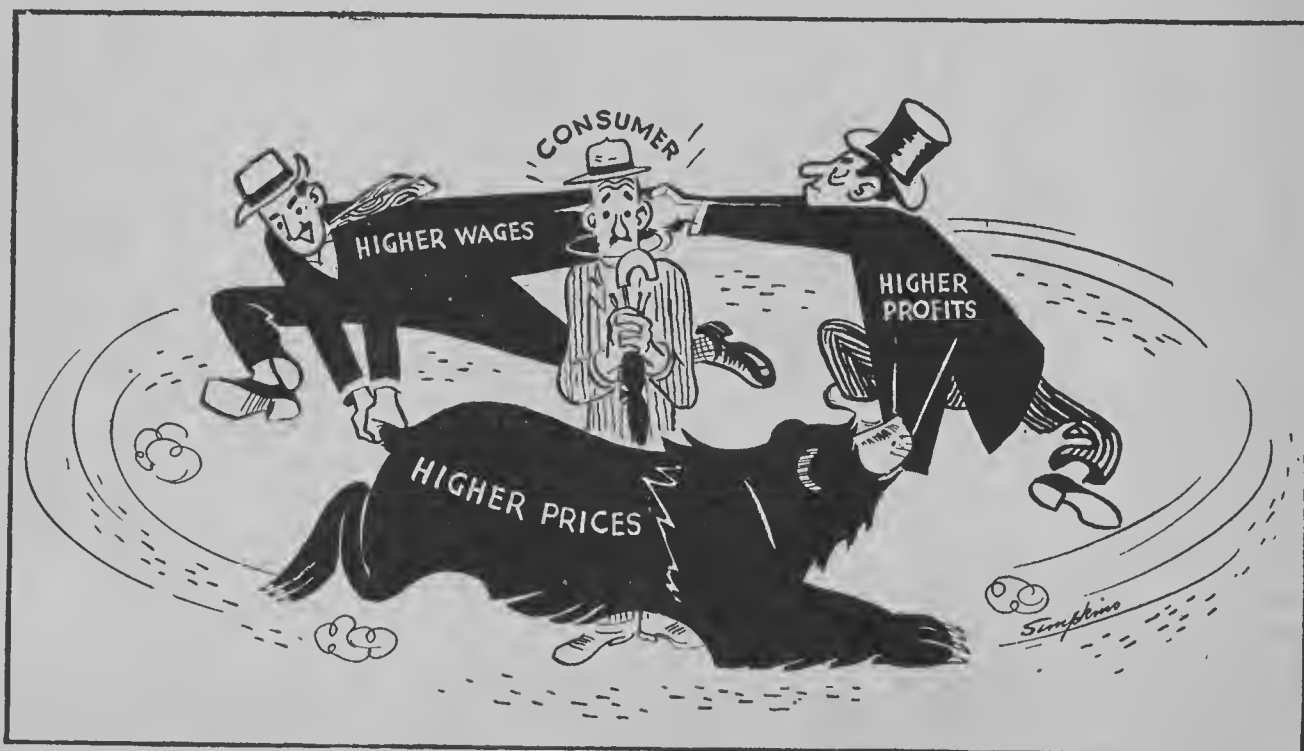
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The conference is just getting down to business as this is being written and will be pursuing its troubled course long after it is read—if the experience of other international get-togethers is any criterion. Everyone concerned expects that it will be characterized by hard bargaining and they will not, in all probability, be disappointed. There may even be high feeling at times. This is not to be wondered at since the discussion of such matters in national capitals, where party rather than national interests are involved, is accompanied as a matter of course by heated and sometimes bitter debate. What matters is not so much what is said at the conference, but what comes out of it. This attempt to introduce some kind of system and order into international trade and to formulate a code of principles and practice in conducting it, is of the greatest immediate concern to Canada. Standing third among the trading nations of the world and with three out of every eight of her people dependent on markets abroad for their livelihood, no other country stands to gain more from the successful outcome of the Geneva parley, or to lose more if it fails.

The World Bank

The billion dollar fact must be faced that during this fiscal year the federal government will have to dig up somewhere around that much money to finance the credits voted by parliament to other nations. Another fact is that the present flourishing condition of Canada's export trade is due to the exchange of Canadian goods for the I.O.U.'s of those same nations. Still another is that what will happen after the credits are exhausted is causing a lot of quite justified apprehension. The credits voted by Canada and the United States were necessary but they are only temporary stop-gaps to fill in the time until the international financial institutions devised at Bretton Woods are ready to go into action.

One of these institutions is the International Bank of Rehabilitation and Reconstruction. Last year Eugene Meyer, an American administrator of great ability, was appointed its president. He set up the machinery of the bank and then unexpectedly resigned. For some months the job went begging. Experienced bankers one after another, including Graham Towers, turned it down. The reason was that the constitution of the bank denied to the president the discretionary powers which they felt he should have.



A race which no one can win.

Under the PEACE TOWER



Finally John Jay McCloy, a former American assistant secretary of war, rated as a human dynamo of great driving power, was prevailed upon to accept the position as a public duty. It was rumored at the time that unnecessary restrictions on the president's initiative were to be removed. In plain language Mr. McCloy would not be hog-tied by an international board of wrangling directors.

That was two months ago and nothing has been heard of the bank since. If it is to be the power in world rehabilitation that it was designed to be it is about time that it was getting into the news again. It is said to be awaiting the outcome of the Geneva trade conference. If that is so it adds greatly to the importance of the conference. In any case the bank should be ready to take over as soon as the Canadian and American credits are exhausted. Stop-gap expedients are limited as to the time of their operation and already dangerous looking clouds are looming over the horizon of international trade. For one thing Canada is headed for a jam because American dollars are not available in sufficient quantities to finance her unfavorable trade balance with the United States. It was to ward off such dangers that the Bretton Woods agreements were made and it is about time for the World Bank to show some signs of animation.

Provincial Party Politics

The move in Saskatchewan to unite the non-socialists against the C.C.F. government is frowned upon by the three major parties concerned. The opposition of the socialists to such a move is readily understandable, since it would consolidate their much disintegrated opposition. But regardless of what the managers of the two old line parties think about it, many non-socialists think that it is time they quit scrap-ping with each other and got together in an attempt to win the province back to free enterprise. If they did, it would be nothing new. Only four of the nine provinces now have straight Liberal or Conservative governments and in two of them coalitions have been formed in which the two parties are working harmoniously in double harness. In British Columbia, after the 1941 general election, the Liberals had the largest group in the legislature, but not a majority. Whereupon the Liberals and Conservatives buried their differences—which didn't require a great deal of excavating—and teamed up to provide the province with stable government. So far they have been getting along without much see-sawing on the double tree. In Manitoba the C.C.F. forms the official opposition to a coalition in which it was at first represented, but from which it withdrew. The coalition is a real one, composed of Progressives, Liberals, Liberal-Progressives, Progressive Conservatives and one or two who wouldn't feel badly if you called them real old fashioned Tories. Across Canada the role of the two historic political parties has deteriorated greatly since they got their first jolt, a quarter of a century ago, when the organized farmers burst into political action. If it were not for the tie-up between provincial and federal party machines, their role would have deteriorated still more.

An examination of the news coming out of the London wheat conference strengthens the suspicion that Britishers are anticipating a return to dollar wheat because that figure approximates the long time average. It is fairly safe to predict that when prices eventually reach equilibrium they will be on a higher level than they were before the war, and that wheat prices, in keeping with those of other commodities, will register a higher long term average. Governments with greatly increased debts have every incentive to keep the price level high. However much Canadians may sympathize with Britain in her present difficulties they will not share any hopes she may have for dollar wheat.

THE high cost of living is the big talk around Ottawa right now. It's all tied up with controls, de-controls, and pleas for re-controls. Parliament these days is paying more attention to the cost of living than it has for a long time.

It seems to me that M. J. Coldwell, C.C.F. leader, put a match to the fuse when he rose in the Commons, during the Beef Hour, and warned business that it was gouging the Canadian public in a seemingly ruthless way. The Beef Hour is a time set aside when various opposition groups can air their "beefs." John Bracken chose to talk about flood control and grain prices. Mr. Coldwell concentrated on profits earned by prominent Canadian companies.

Usually, I do not devote too much time to opposition speeches. This is first of all, because if you start singling out many speeches, you get yourself involved in endless work, because you can never keep up with all the good speeches. Secondly, opposition parties often oppose just for the sake of opposing, and there is nothing constructive in their attitude. Then too, what opposition groups say is only a matter of opinion, what the government says becomes the law of the land. But in the case of Mr. Coldwell, I have made an exception.

Revealing an astounding amount of research, he read over the 1946 profits of a good many Canadian companies. These figures were all taken either from the companies' own statements, or out of the more or less Tory press. Mr. Coldwell quoted a knitting company as taking 309 per cent profit in 1946 over 1945. A carbonated beverage firm managed to eke out a profit of 448.3 per cent over 1945. A hotel registered an increase of 70 per cent profit in a year. No wonder building was costly, he declared, when one building firm showed a stepped up profit of 286 per cent. A chocolate firm managed to make 226 per cent profit.

Mr. Coldwell said he had come back fresh from the people, as had the others. What have we found, he asked.

"The people of Canada are worried as perhaps they have not been worried for a very long time," he asserted. "I met a good many who are worried about how they are going to make ends meet during the next few months, or the next year."

Mr. Coldwell then urged that the government review its de-control program, and make haste more slowly in its pellmell program to toss everything back into private enterprise. He made out a great case, in my opinion, for the retention of many controls.

As I see the situation here, the Liberal government was stampeded by the Progressive Conservatives into pulling out the pegs faster than they otherwise would have, in the matter of controls. The idea was to get back into a "normal economy" rather than maintain the rigidly controlled economy existing during the war. To sit in the Commons, and listen to the Tories clamor for an end to controls, and at the same time to hear the C.C.F. argue for retention of controls, it was obvious that the Pro Cons were winning the day. As a result, the Liberals, who are always identified as more or less a private enterprise party listened more to the Brackenites than the Coldwellites.

I suppose the Liberals put industry on the honor system. Now if 448 per cent profit over 1945 is the honor system, then there is little honor in it if that is the whole story. Then you

get such interruptions as that of Harry Jackman, Progressive Conservative, Toronto - Rosedale, who when high profits are mentioned, injected something like: "What were their profits in 1932?" The answer of course is that no matter how small the profits for this particular firm might have been in 1932, surely they were not as badly off as luckless thousands on relief. In other words, the average man has little sympathy for an adverse balance sheet, when he recalls how miserable, cold, hungry, and dejected he was in those years. For that reason I say, that no matter how strongly eastern capitalists might strive to give the other side of the picture, it is not likely to strike a very responsive chord with the voter.

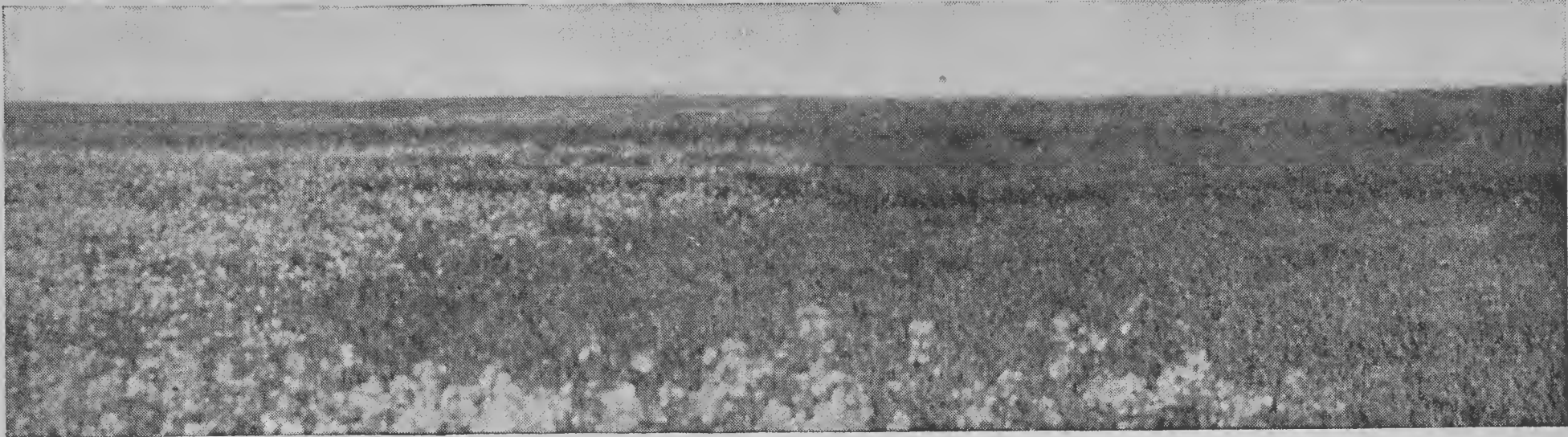
COLDWELL then has put the issue squarely before the people, through his speech. He has more or less indicated that at least some firms cannot be trusted to take a fair profit. Whether they had some bad years before the war matters not now, to many Canadians. I would say that, sympathetic as I am bound to be to any firm trying to make a profit, that news of big companies increasing their profits by millions of dollars in 1946 makes very bleak reading, and leaves a bad taste in the mouths of many Canadians.

Now what is happening, as a by-product of these high prices, is inflation. If you can keep on getting more money as your grocery bills mount up, that is all right, perhaps. But many people are fixed with a static income and the things they have to buy keep going up like balloons in a balloon race. Ultimately, this forces people to cut down their standards of living. Then come lay-offs by manufacturers. Then comes a recession. Then comes—need we go further?

In a brief speech, Coldwell seemed to unfurl the whole dismal panorama ahead of us, if we maintain our present high prices, and presumably, high profits. The women of the States broke the fur coat market by refusing to buy the coats, and they came down—but fast. Unfortunately, in some cases, the poor shop keeper himself had to take the loss. He had bought high, had to sell low. But we have now come to the point where Americans are worried sick about this inflation, and want to get prices down. Big merchandizers have even told their customers that they realize buyers are not getting proper value for their money in their stores, and they are trying their hardest to get prices down. These merchants can see misery coming, in the wake of inflation.

Something's got to be done in Canada too, says Mr. Coldwell. I thought there was a ray of hope in

Turn to page 60



FOR CLEANER FIELDS

Goodbye Mustard! Left: Untreated Section.
Right: Treated with WEED-NO-MORE.

AND HIGHER YIELDS

Green Cross*

WEED-NO-MORE 40

**The Original, Quick-Penetrating BUTYL ESTER 2, 4-D
SELECTIVE WEED KILLER**

Green Cross scores again . . . this time with a double, to put Canadian growers on the winning side in the fight against weeds.

FIRST: With Weed-No-More 40, the original Butyl Ester 2, 4-D. This is a selective hormone-type weed killer in (40%) ester concentrate, specifically designed

for control of weeds in grain and other large-scale operations.

SECONDLY: By developing economical and efficient equipment for low-cost application of Weed-No-More this year. (See page 18).

Check your losses through weeds

For years, mustard, thistle and other weeds have caused Canadian growers crop losses, ranging from 15% to 50% and more, compared with average losses of 5% through grasshoppers, sawflies and cutworms, and 10% for rust.

Agricultural authorities have shown the following as some of the injurious effects of weeds:

1. **Weeds steal moisture.** An average mustard plant pumps 14 oz. of water from the soil daily . . . 21 pints per month. Cultivation against weeds further retards moisture conservation.
2. **Weeds rob plant food** from the soil, leaving useful crops to starve for lack of nourishment.
3. **Weeds throttle young crops.** Because they develop quickly and are more hardy, weeds shut out light and air from young plants, resulting in sickly growth.
4. **Weeds seriously reduce cash returns** to the grower by lowering the grade of wheat and reducing the market value of seed grain.
5. **Weeds increase costs** of every operation in preparing land, seeding, cultivating, harvesting and marketing grain.
6. **Weeds harbour and nourish** injurious insect pests and fungus diseases.
7. **Weeds increase danger** of soil drifting by making constant cultivation essential.

8. Some weeds are poisonous to stock and often taint milk.

9. Weeds materially lower the value of farm property and make it unsightly.

10. **Weed-infested farms** and ditches are a menace to neighbouring property.

WEED-NO-MORE kills:

Wild Mustard, Stinkweed, Canada Thistle, Chickweed, Ragweed, Bindweed, Sow Thistle, Purslane and many other annual and perennial broad-leaf weeds.

WILL NOT DAMAGE THE GRAIN.

Check the advantages of WEED-NO-MORE

WEED-NO-MORE "40" is a selective hormone-type weed killer, containing 40% Butyl Ester of 2, 4-D, which has given such outstanding results in tests in both Canada and the United States.

Applied to grain fields before the jointing or after the milk stage, WEED-NO-MORE will substantially reduce your losses through weeds, WITHOUT DAMAGE TO THE CROP.

Compared with the ordinary salt formulations, WEED-NO-MORE offers many unique and decided advantages.

1. **Quick penetration.** WEED-NO-MORE is a liquid containing the Butyl Ester of 2, 4-D in a refined oil spray. It penetrates the plant tissue quickly . . . in a matter of seconds . . . and spreads rapidly through the plant system.
2. **Resistant to rain.** Salt formulations of 2, 4-D evaporate, leaving dry solids on the leaves, which are easily washed off. WEED-NO-MORE, because of its oily ester nature and rapid penetration, is not readily washed off by rain after application.
3. **Mixes readily.** WEED-NO-MORE can be mixed with any type of water, hard or soft. It is ideal for air application, where diesel fuel oil is the best carrier. Salt formulations will not mix with oil.
4. **Highly concentrated.** Economical WEED-NO-MORE 40 is a powerful concentration of 2, 4-D

(40% Butyl Ester), and consequently gives better coverage with less labour and cost.

5. **More effective.** The Butyl-Ester 2, 4-D formulation has been definitely proven more effective, especially on resistant weeds such as purslane.

6. **Works faster** in cool weather.

7. **Easily applied.** Can be used with any type of spray equipment. Low water consumption. Boom-type Sprayer, Aircraft, Buffalo Turbine, Power Sprayers, etc.

8. **Non-poisonous.** No problem of soil sterility. Harmless to animals.

9. **Non-corrosive.** Will not affect wood, metal, or hose connections.

10. **Selective.** Permits cropping of small grains simultaneously with weed control, thus eliminating erosion problems.

11. **In liquid ester form,** easily and accurately measured.

12. **Stores easily.** Will not freeze, evaporate or deteriorate in storage. No fire hazard.

Rates of Application

1. **With low gallonage "atomizing nozzle" boom sprayer,** 16 oz. "WEED-NO-MORE 40" to 4 gallons water per acre.

2. **With atomizing sprayers** (Buffalo turbine type), 16 oz. "WEED-NO-MORE 40" to 5 gallons water per acre.

3. **With high gallonage ground sprayers,** 16 oz. "WEED-NO-MORE 40" to 80 gallons water per acre.

4. **For air application,** 16 oz. "WEED-NO-MORE 40" to 1 1/4 gallons Diesel Fuel Oil No. 2 per acre.

CAUTION: While harmless to grain or grass, 2, 4-D will kill many broad-leaved plants or trees as well as weeds. Care should be taken, especially on windy days, to avoid letting the spray reach fields with susceptible crops, trees, clover, hedges, etc. Wash out sprayer as directed on can before using for any other type of work.

For further information, use coupon in advertisement on page 18.



Available in 1-gal. and 5-gal. cans or 45-gal. drums.

GREEN CROSS INSECTICIDES

Green Cross Insecticides are the products of the combined technical, research and production facilities of four great Canadian companies: The Canada Paint Company, Limited; The Lowe Brothers Company Limited; The Martin-Senour Co. Limited; and The Sherwin-Williams Co. of Canada Limited, and their affiliates in the United States.

The Largest Manufacturers of Insecticides in the World

NEWS OF AGRICULTURE

Canadian Farm Subsidies

BETWEEN September 1, 1939, and January 31, 1947, the Dominion Department of Agriculture announces, the Dominion Government has paid out \$351,476,126 in agricultural subsidies. These figures were contained in a statement filed in the House of Commons by the Minister of Agriculture. The largest single item of the total was an amount of \$84,104,622 paid for butterfat used in creamery butter. Freight assistance accounted for \$79,811,521, and milk for human consumption \$44,461,049. Premium payments on hogs accounted for \$31,242,944, prairie farm income \$18,978,983, apples \$14,409,632, and on milk used for cheddar cheese \$14,221,570. The total number of items for which subsidies were paid numbered 31.

Poultry Numbers

THE December 1 poultry survey in Canada, announced on April 1, shows that Canadian poultry increased 5.5 per cent over December 1, 1945, and reached a total of 58,466,500 head. Domestic fowl increased 5.8 per cent to 54,702,200 head. There are 2,648,900 turkeys in Canada, of which more than two-thirds were in the three prairie provinces; Saskatchewan leading with 800,000.

Domestic fowl in Ontario numbered 20,556,000, slightly more than the three prairie provinces combined, of which Saskatchewan was the only one to show an increase, reaching a little more than nine million head. Though British Columbia is rapidly developing a strong poultry industry, it is largely concentrated in the Fraser Valley and on Vancouver Island, so that the total of 2,062,000 is less than half of that of Manitoba, less than 40 per cent of Alberta, and less than 25 per cent of Saskatchewan.

Manitoba Has Bull Purchase Policy

THE Manitoba Department of Agriculture has recently introduced a new bull purchase assistance policy, the object of which is to encourage the use of purebred sires for the improvement, in type and quality, of Manitoba cattle.

As from April 1 of this year, the Government of the Province will contribute one-fifth of the total purchase price of a bull up to a limit of \$80. To secure such assistance the bull must be approved as to price, type and quality by a representative of the Livestock Branch of the Provincial Department of Agriculture. Applications for this assistance may be made through agricultural representatives or direct to the Livestock Branch.

Help Get Accurate Information

ABOUT the middle of May each year, the Dominion Government, through the Dominion Bureau of Statistics, conducts an annual survey of production. Thousands of cards will be mailed to farmers in western Canada, as well as eastern Canada, which will carry a request for information as to acreages of different crops, kinds and numbers of livestock and so forth. The replies sent to Ottawa will then be carefully studied, analyzed and reported to the public.

Contrary to some farm opinion, this information has no connection whatever with any form of taxation. It is an attempt by the people of Canada themselves, through the Government, to obtain the true facts about Canadian agriculture.



Dr. J. F. BOOTH

Recently elected President, Agricultural Institute of Canada. Dr. Booth is Associate Director, Marketing Service, Economics Division, Dominion Department of Agriculture, Ottawa.

International Federation Meets

THE International Federation of Agricultural Producers will hold its first annual general meeting in Scheveningen, Holland, from May 12-23, when 28 nations will be represented by their delegates and observers. Organized in London last May, the international farm organization has been credited with "the distinction of holding the first postwar international conference to achieve complete agreement on all matters of basic policy and principle."

The meeting will discuss questions of importance in the world agricultural situation, including its relation to the Food and Agriculture Organization of the United Nations. It will discuss plans for stabilizing prices, commodity agreements, the contribution it can make to peace, the establishment of buffer food stocks and the organized disposal of surpluses, as well as adequate representation of farmers in international agricultural conferences.

Countries represented will be Argentina, Australia, Austria, Belgium, Burma, Canada, Czechoslovakia, Denmark, Eire, Finland, France, Hungary, Iceland, India, Italy, Luxembourg, the Netherlands, New Zealand, Norway, Peru, Southern Rhodesia, Spain, Sweden, Switzerland, Union of South Africa, the United Kingdom, United States and Kenya.

No Wheat Agreement Yet

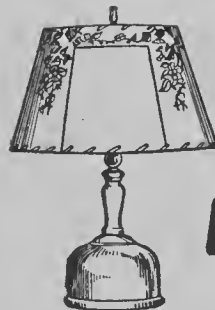
THE stabilized marketing of 600 billion bushels of the world's wheat, the most important single human food, was at stake when the international wheat conference, involving the direct interests of 40 countries, met in London on March 18. It was still at stake and undecided when the Conference closed on April 23, after turning the whole matter over to the International Wheat Council of 14 member countries for further discussion. A miracle of diplomacy and conciliation might yet bring an agreement by August 1, in time to market the 1947 crop.

Directly involved are the exporting countries, producers and sellers of surplus wheat. They include: Canada (to be allotted 230 million bushels each year); the United States (185 million bushels); Australia (85 million bushels); and Argentina (around 100 million bushels). On the other side were the importing countries, the heavy consuming and short-producing countries, chief among whom is Britain, provisionally allotted 190 million bushels, but also



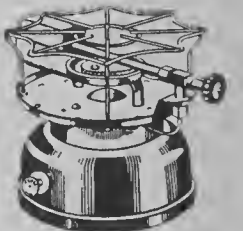
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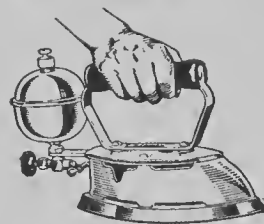
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Here is the handiest little stove a farmer ever owned. It's portable . . . has many uses . . . just the thing for hot-weather cooking. Bee-keepers recommend it for heating steam-knives. Ideal for heating soldering irons quickly . . . keeps the iron hot when you lay it down. See it . . . try it . . . buy it at your dealer's.

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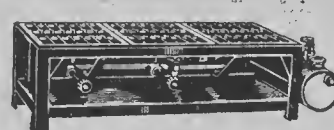
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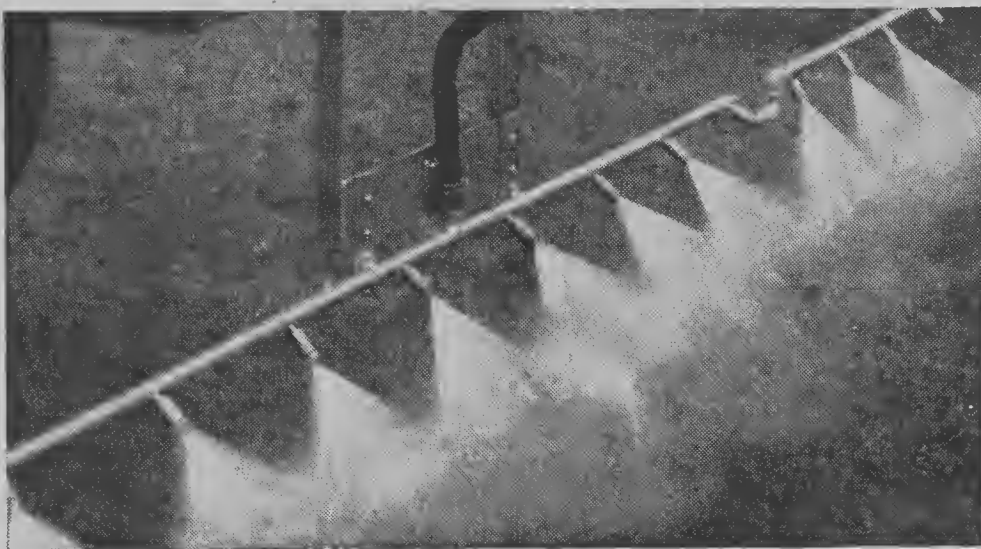
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This Green Cross sprayer, which has been perfected after extensive tests will be low in cost and economical to operate. It projects the WEED-NO-MORE through the nozzle as a finely divided spray, permitting the use of much higher concentrations and assuring better coverage, with less run-off or waste. Available through your equipment dealer in limited numbers.

AIRCRAFT APPLICATION

Note: If you are interested in AIRCRAFT APPLICATION of WEED-NO-MORE 40 (2, 4-D) on cereal grain crops, the names of proficient operators of tested equipment, and who will be operating on the Prairies as soon as conditions warrant, can be made available to you.

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including many other smaller importers such as Holland, Norway, Eire and Italy, as well as others more nearly self-sustaining in wheat, such as India and France.

Before the Conference when it opened was a complete draft of an international wheat agreement prepared in January at the 15th session of the International Wheat Council. It proposed, in addition to quotas already referred to, maximum and minimum prices for each year of a five-year agreement, in addition to a narrower price range to be fixed prior to the beginning of each crop year, within the wider maximum-minimum range now to be arranged. Due to expected decline in the present feverish demand for wheat, prices in later years were to be substantially lower than for the first year or two of the agreement.

Argentina early announced her decision to remain outside an agreement for the time being. Now able to sell wheat to needy countries at famine prices, she was unwilling to sacrifice immediate returns. The other producing and consuming countries were eager for an agreement, consumers in the hope of getting food more cheaply than at present skyrocket prices, and producers in search of stability for later years. Britain, the biggest consumer, hard pressed economically, slowly recovering from the devastation of war, and bedevilled by hard luck and a shortage of dollar exchange, wanted lower minimum and maximum prices; the United States, faced with political repercussions arising from an inevitable drain on public funds to maintain an export subsidy, fought against too low a level. (The United States Government would have to pay the difference between any price for export fixed by an international agreement, and the price guaranteed American wheat producers by the United States' parity price policy.) Canada, having entered into a four-year agreement with the United Kingdom to supply 160 million bushels annually at \$1.55 per bushel for the 1946-47 and the 1947-48 crop years, at a price of \$1.55 basis No. 1 Northern Fort William-Port Arthur, Vancouver or Churchill; and 140 million bushels, with a minimum of \$1.25 per bushel for the crop year 1948-49, and no less than \$1.00 per bushel for the crop year 1949-50, naturally did not want to see an international agreement at lower than these contract prices.

Some countries, notably India and France, favored stabilized prices in the present period of short supply, but wished to avoid commitment in later years when wheat would be more plentiful, and their own production more adequate to their needs.

The originally suggested minimum was \$1.25, with a maximum in earlier years of \$1.80. Britain objected to both outside levels as too high, and proposed an 85-cent minimum. Weeks of negotiation led to a final compromise proposal, agreed to by exporting countries and 10 of the 15 importing nations, but opposed by the United Kingdom and four lesser importers, whose combined imports, however, totalled more than those of the 10 favorable countries. The proposal would have established a maximum for the 1947-48 crop year of \$1.80 (\$1.40 minimum); a maximum of \$1.70 for the 1948-49 crop year (\$1.30 minimum); a minimum of \$1.20 for the 1949-50 and a \$1.10 minimum for the 1950-51 crop years, no maximum being suggested for the last two years.

On the last day of the conference, the United Kingdom through her chief delegate, Sir Herbert Broadley, refused to accept the agreement, and was joined by Canada and India. The United Kingdom viewed both top maximum and the bottom minimum prices of \$1.80 and \$1.10 as "excessive." Owing

to the United Kingdom attitude, Canada withdrew to study the question more extensively.

The chief Canadian delegate, Norman A. Robertson, made it clear that Canada would have supported the United States and the agreement, had it not been for the United Kingdom rejection; and would have expected the present Canadian-United Kingdom agreement to have been merged within the international agreement. At a press conference later, Sir Gerard Clauson, chairman of the International Conference, said Britain considered her top price to be the \$1.55 price included in the Canadian agreement.

Straws in the Wind

EVIDENCE of the fact that science is coming rapidly to the aid of agriculture comes from the airplane which is now about to serve farmers in the chemical control of weeds.

The Edmonton Journal reports that three wartime pilots have organized to serve farmers in the three prairie provinces with three refitted wartime planes. Helicopters, also, are being imported into Canada, and will be used for the same purpose. Once the specialists in weed control and the plane pilots have got together in matters of formulae and the technique of application, some of our worst annual weeds should be in for a pretty thorough beating.

* * *

ACCORDING to reports, something like 65,000 packages of bees were imported into Alberta this year, mostly from California and some from Alabama. Each package contains about 12,000 bees, and this year's import runs about 2,000 packages more than 1946. The increase is, after all, substantial. In addition, it was estimated that 10,000 hives of bees were wintered over in the Province, as compared with 9,000 the previous year. This is calculated to mean that around 900 million bees will be harvesting nectar and pollen from Alberta flowers this year.

* * *

AT Estevan, Saskatchewan, around 200 acres of land southeast of the town were recently seeded to sweet clover by air. The area was strip-mined several years ago, and is in a rough condition unsuitable for farming, with the top soil turned under. Seeding was completed in about ten minutes, and the hope is that sweet clover will grow and eventually enable the land to be reconverted to farm use. The land was wet, and was seeded by pouring the seed over the side of the aircraft as it flew over the 200-acre area.

* * *

PLASTICS from flax seed, and perhaps the first to be made from this crop, may result from work now under way by chemists at the University of Saskatchewan. Dr. E. Y. Spencer, Associate Professor of Chemistry, and C. R. Usher, chemical engineering student, hope for a plastic which will combine water resistance, strength and durability. The search for a flax plastic looks forward to the time when some of the present keen demand for oil crops will have subsided and industrial uses become of more immediate advantage to the flax producer.

* * *

EGGS, like most other kinds of fruit, have comparatively fragile outer coverings, in this case, a thin shell which is easily broken. Therefore, to find eggs which can be dropped from the top of an eleven-storey building without breaking, and which will in addition bounce several feet into the air, is really something. In this case it was something else again, because some time ago in New York, both hen and duck eggs were made to do just this, though the secret lay in a three-inch pad of cellular rubber, intended for use as an aircraft safety cushion, and tested with eggs.

Pulpwood Adds to B.C. Farm Cash

B.C. farm timber holdings assume new importance. Hard rock miners complain that government skims cream from their gold operations

By CHAS. L. SHAW

B RITISH Columbia is becoming woodlot-conscious. Until recently, timber on a farmer's acreage was regarded as more of a nuisance than anything else—a possible source of wood fuel, but that's all. There was little or no thought of turning the timber into a cash crop, along with grain, berries, pork and eggs.

But pulp and paper manufacturers, encouraged by the provincial government, are telling farmers close to the larger centres that woodlots mean money and that they might as well cash in on them.

A few weeks ago the first development of its kind in British Columbia—still on an experimental basis—was put into operation near Vancouver. Representatives of a pulp company toured up and down the Fraser Valley checking on farmers' timber holdings and suggesting that they cut some of their trees to cordwood lengths and pile them along the side of the highway. When a sufficient number of responses had been favorably received, trucks were sent out to pick up the bundles of cordwood and carry them down to a tidewater wharf where they were barged to the pulpmill for ultimate manufacture into precious newsprint.

THE provincial government during the session of the legislature recently terminated put through a new forest management law providing various inducement to farmers with a view to fostering the growth and maintenance of woodlots. Eventually an expert forester will make periodical surveys of the principal woodlot areas to advise the holders regarding the best way of utilizing this source of wealth hitherto unrealized.

The pulp and paper industry will probably always depend on the big, unbroken coastal forests as the main source of raw material supply, but the farmer's woodlot gives promise of being a worth-while auxiliary. Even in British Columbia, where noted authorities used to say that the forest resources were inexhaustible, there are unmistakable signs of timber shortage in certain areas. The pulpmills as well as the sawmills are eager to get timber wherever it can be economically made available.

For a while during the recent legislative session it looked as though British Columbia's brand new forest law would be in for a rough ride. A group of foresters appeared before the cabinet and declared that the bill, as finally drafted, drastically departed from the proposed measure previously described to them by the minister of forests. They said that in its present form no private interests would take advantage of its clauses, which were to provide the legal framework of a sustained yield program.

There was a good deal of corridor and caucus debate and finally a compromise measure was drawn up which met with everyone's satisfaction.

WITH the legislature only just prorogued, there is a natural inclination to discuss what the house accomplished. Well, it didn't do all the things that were promised, but possibly that's just as well. It was declared that the legislature would sanction a more liberal liquor policy, with cocktail bars in the hotels, and so on. The legislature didn't sanction it because, as the attorney-general pointed out, no one seemed to care enough about the proposal to support it. On the other hand, there were a great many protests from temperance people. And for some reason legislators are always particularly reticent to offend the so-called dries.

Several newspapers attacked the government for what they declared to be pussy-footing on the liquor issue, and at least one editorial claimed that the legislature's action, or lack of it, was another sell-out to the brewers; because, while the opportunities for drinking hard liquor were still curbed, provision was made for more beer parlors.

The other contentious bill before the legislature concerned industrial relations and the rights of labor. The government, tired and sick of the strikes last year which crippled industry at a time when production was badly needed, was determined to do something this year about putting the brakes on union organizers.

It had been claimed that the strikes were due chiefly to the extraordinary influence of a few labor leaders on the rank and file, and it was considered that this influence could be checked or at least controlled by the provision of facilities for secret ballots on strike votes, under government supervision.

Labor Minister George S. Pearson didn't agree with his colleagues. He said that such a system would be unworkable. For a while he even threatened to bolt the cabinet, although few took his defiance seriously. Eventually, the bill was passed, with the C.C.F. alone indicating disagreement.

One important section of the bill makes people who cause strikes or lock-outs subject to stiff fines, evidently a reflection of the judicial action taken in the somewhat larger sphere of John L. Lewis and his coal miners. The fact that the bill was carried, 35 to 11, indicates the legislature's determination to have industrial peace.

T HIS is the time of year when prospectors start trudging the trails in the mining hinterland of the province, and reports of new discoveries are already drifting into Victoria and Vancouver. A gold-seeker claims, for instance, to have made a rich strike away up in the Goldway area and this may lead to a modest stampede into country served primarily by the Alcan Highway.

Spokesmen for the gold mining industry, however, are a little skeptical about the general outlook because they think that, despite recent concessions, Ottawa still doesn't appreciate the value of gold production.

Canada, say the gold mine operators, used to produce three times as much gold as she does today, and the reason for the decline is high taxes, and a lower price for gold as a result of the restoration of dollar parity with the United States. With taxes and costs of production much higher than ever before, the fixed price for gold persists and the miners say it simply isn't fair.

On the other hand, prices have gone sky high for base metals and production has soared 45 per cent in British Columbia. Since British Columbia leads Canada in most base metals, notably lead and zinc, this has been all to the good. But the gold miners still think they have been cheated.

Speaking of gold and other metals, Dr. Harry Warren, geologist at the University of British Columbia, has a theory that the study of botany may lead to Canada's richest mineral discoveries of the future. He has discovered a definite relationship between plant life and metals in the ground where they have their roots. For instance, trees growing near the Britannia copper mine have leaves containing ten times as much copper as ordinary trees of the same species.



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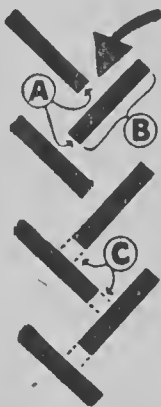
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Farm Division

WITH HAT IN HAND

Continued from page 5

present request, if granted, would increase the discrimination against the West. Take the case of wool. M. A. McPherson, chief counsel for Saskatchewan obtained the admission that the rate on wool in less than carload lots for a distance of 400 miles in the West would be 90 cents per hundred pounds. The rate from Pointe au Baril to Montreal, a distance of 390 miles would be only 55½ cents. The 30 per cent rate increase asked for would increase the charge in the West by 27 cents; in the East by 17 cents.

Similarly with lumber. The carload lumber rate from Vancouver to Bassano, Alta., a distance of 719 miles, is 52½ cents per hundred pounds. From Mont Laurier, Que., to Windsor, Ont., a distance of 713 miles, the rate is 29½ cents, a difference between eastern and western rates of 23 cents. The new level of rates proposed by the railways will boost the tariff to 68 cents and 38 cents respectively, raising the East-West differential to 30 cents. Comparisons like these may be continued indefinitely with one commodity after another.

Alberta, standing at the very pinnacle of the Canadian freight rate structure suffers from discrimination more than any other inland province. J. J. Frawley, Alberta counsel, compared prairie rates with transcontinental rates before the Board. For instance, he stated, a carload of canned fruit railed from Toronto to Edmonton must pay freight at the rate of \$1.98 per hundredweight. On the other hand an identical load of canned fruit can be sent from Toronto to Vancouver for 96 cents a hundred, less than half the rate demanded from a car on the shorter haul! Why? Because water haul through the Panama sets a competitive rate. The railways must keep their transcontinental tariff at its present level to get the business. But Edmonton is in the heart of railway monopoly territory and can hope for no aid except from the Board.

UNDER similar circumstances the American Interstate Commerce Commission adopted a device known as the Spokane rate. Over the objections of railway counsel, Mr. Frawley enlarged upon it. The Spokane rate forbids a railway to charge a higher rate for delivery to intermediate points than those charged to terminal points. C. E. Jefferson, freight traffic manager for the C.P.R., who was on the stand ten days, declared that the principle embodied in the Spokane rate was impractical in Canada. By which he means that Canadian roads would lose a great deal of revenue thereby.

The end of all this East-West comparison of rates is that there is an admitted discrimination against the West. The railways get their revenue where they can. In competitive areas they must cut their charges fine. They recoup themselves from shippers in areas of railway monopoly. There is no attempt in Canada to frame rates based on the cost of the service. The railways charge what the traffic will bear. The Transport Board is charged with the duty not of preventing discrimination but, rather a close distinction, to prevent undue discrimination.

Throughout the hearings to date, the railway lawyers have tried to keep the spotlight on increased costs. But counsel for the provinces played the light into all sorts of odd corners. They have been persistently inquisitive about profits. Near the end of the case for the C.P.R. they were successful in getting a statement about profits on eastern and western lines since 1907. The railway put it forward with a great deal

of diffidence and warned that it wasn't to be taken too literally. Truly it is a revealing document.

Canadian Pacific Railway Net Earnings

	Eastern Lines	Western Lines
1907-11	\$ 43,500,000	\$ 91,500,000
1912-16	60,000,000	152,500,000
1917-21	81,000,000	174,500,000
1922-25	56,000,000	101,500,000
1936	5,855,663	17,455,448
1937	10,013,518	13,728,729
1938	3,319,725	17,432,731
1939	5,949,860	22,573,960
1940	14,058,900	21,580,538
1941	16,951,233	29,006,363
1942	20,885,093	27,302,596
1943	19,544,002	29,667,565
1944	11,537,387	31,622,277
1945	13,090,407	22,963,927
	\$361,615,198	\$753,334,134

The Canadian Pacific has earned more than twice as much in the West than in the East. Costs of railway operation are lower in the West than they are in the East. Under normal conditions freight rates in the West would be lower. But economic circumstances are set aside by lack of competition. And the West pays.

It is sometimes argued that this railway should reap a bigger profit from its western operations because it has a greater mileage west of the lakes. Some of the news reports of the hearings made note of this fact. It will be interesting to see if the railway counsel make such an assertion. To date they have not done so. If they do, it will be very convenient to meet them on ground of their choosing. For if mileage becomes the test, relative profit should be calculated on cost of construction, and the records of the tribunal where the case is being threshed out, show that it cost from two to ten times more per mile to build this road through rocky, undulating terrain of old Canada than across the flat reaches of the prairie.

The C.P.R. spokesmen tried to quiet western fears as to the effect of the proposed increases to their agriculture and industry. They filed an exhibit to show that a rate which was one dollar in 1914 would become \$2.46 in eastern Canada; \$1.95 on the prairies; and \$1.72 in mountain territory. A familiar trick with propagandists. The year 1914 is not a fair base for calculations for at that time freight rates were outrageously discriminatory against the West.

THE C.P.R. exhibit showed that the proposed increases would produce an anticipated revenue for their road of \$118 millions, or 53 per cent of the total income, from western lines, and \$105 millions, or 47 per cent of their income from eastern lines. Under analysis by M. A. McPherson these figures illustrate something far different from what was intended. The increase in the West would be \$18,300,000, of which \$1,500,000 is from coal and coke. Without this class of traffic, which is the subject of a separate proposal, the western increase would be roughly \$17 million, for grain and flour remain untouched under the Crow rates. The increase in the East is reckoned at \$19,100,000; less coal and coke at \$1,100,000, a net of \$18 million.

Now get this point. After eliminating coal and grain western tonnage is relatively small. It is far less than the eastern tonnage over which the \$18 million will be spread. This is something which Mr. Jefferson omitted from his testimony. Car loadings in the West, less coal and grain will be about 20 million tons. A comparative tonnage in the East is 60 million. Mr. Jefferson is quite within the truth when he says the East will pay more. A population roughly three times as large will pay \$18 million more on 60 million tons of

freight, whereas the West will only be asked for \$17 million more on 20 million tons of freight.

SPEAKING at St. John, N.B., on November 25, 1946, between the dates of the filing of the application and the commencement of the hearing, when the railways were anticipating an increase first and an argument afterward, D. C. Coleman, president of the C.P.R., is reported as objecting to the accusation that the railways charged "all the traffic would bear." He made the subtle distinction that the roads charged "what the traffic will bear." It follows that the railways, in their own unsupported wisdom, have decided that the West can bear an increase nearly as high as what will be asked of the East even though there are only one third as many people to pay it. And if the increases authorized for the East are shaded to meet competition the colors in their picture are even more lurid.

It will be noted that to this point the criticisms in this article have been directed against the C.P.R. alone. Two circumstances make this necessary. At the time of writing the C.N.R. has not presented its case. Much more important, however, is the principle accepted for 25 years by the Board of Railway Commissioners and its successor. Rates are not fixed to meet the revenue requirements of the C.N.R. The unhappy financial and political history of that road puts it in a less favorable position than its efficient competitor. A rate which would make the C.N.R. profitable in normal times would bear unduly on the shippers of Canada and make a bonanza of its older rival. A level of rates which would meet C.P.R. requirements and not be unduly burdensome on shippers might leave the C.N.R. with deficits, but it is eminently more reasonable to pay the deficits of the C.N.R. arising from past mistakes, out of the public treasury than to try to meet them with freight rates which admittedly discriminate against one section of the country.

Order-in-Council 2434 of October 2, 1920, recognizes this fact and instructed the Board to this effect in the rate case heard in that year:

"What constitutes a fair and reasonable rate should now be arrived at without reference to the requirements of the Canadian National system and your committee recommends that the order in this case be referred back to the Board to be corrected in its findings in such manner as to determine what are fair and reasonable rates without taking into account at all for the time the order shall be in effect the requirements of the Canadian National system."

It is indeed a mistake to regard the financial requirements of the C.P.R. as a paramount consideration. In the charter of that road is a provision for rates which would produce 10 per cent earnings for the capital invested. In 1904 C.P.R. solicitors argued that the Board had no jurisdiction over rates until the 10 per cent was exceeded. The Board did not acknowledge the limitation and the railway appealed its decision. But before the appeal was heard the C.P.R. abandoned its claim and acknowledged the authority of the Board. Never since has this claim been revived as a matter of law.

THE question of railway revenue has repeatedly bobbed up since in rate cases. The possibility of a serious loss to the railways has always been a matter of deep concern to the Board, one of whose function is to protect and preserve them. But it is also charged with the removal of features of the rate structure which are unjust to localities. In 1927 the then Chief Commissioner dealt fully with the situation in a judgment which can only be interpreted to mean that the removal of discrimination be-

tween localities takes precedence over profitability of rates. In the language of the Winnipeg Free Press: "The Transport Board has never been instructed to find net earnings, regardless, but it has been instructed time and again to remove discrimination as against different parts of the country."

ARE the railways as much in need as they would have the public believe? Counsel for the provinces have thrown a pitiless glare on this side of the railway case. They have shown that the transportation systems waxed fat during the war years and did what any well run business should have done, laid aside a bit for the rainy day which is about to dawn. C.P.R. common stock more than doubled between 1939 and 1946. Preferred stock which sold for \$36.40 at the end of 1939 fluctuated between 76 and 63 in 1946. Counsel for British Columbia estimated from evidence submitted by the C.P.R. that its position had been improved by \$222 million in the last seven years, a calculation to which railway counsel objected.

S. J. R. Liddy, assistant controller of the C.P.R. and a pugnacious witness, gave the company's investment in property as \$1,305 million. About one-third of this, it turns out on analysis, consists of depreciation reserves and government handouts on which the road is not entitled to dividends. Col. Ralston struck out at the railways' claims of financial distress by calculating that most of the \$37 million annually which the C.P.R. expects as its cut from higher rates will go in the payment of dividends and income tax payments. "The railways of Canada," said he, "were never in a better financial position in their history than they are today."

The argument on the boxcar shortage illuminates a case which grows progressively worse as it proceeds. C.P.R. witnesses argued in effect that there is a desperate shortage of boxcars, on account of which they cannot accept all the traffic now offering. As they cannot increase their volume of freight movements they are therefore entitled to a higher rate on what their present equipment can handle!

A little cross-examination developed the information that in 1939 the road scrapped 5,099 boxcars, and because car loadings at the time were light they followed a go-slow policy of replacement. In later years when the railway would have liked to replenish rolling stock, materials were scarce. The boxcar situation became more and more acute. During the period from January 1, 1939, to October 31, 1946, the C.N.R. had delivered to it 18,505 revenue freight cars. The C.P.R., to whom the same sources of supply were open, received only 8,541. Obviously there was a mistake in judgment which will occur in the direction of any business enterprise, a mistake for which the business will have to pay out of normal profits. The way out recommended by the witnesses at Ottawa was for the public to pay.

Had all the evidence on the foregoing points been allowed to stand without cross-examination there is still one aspect of the case which intrigues every Canadian elected to pay the shot. Freight haulage is only one of the many activities of the Canadian transportation systems. They haul passengers and mails, operate steamship lines, hotels and telegraph companies, and a host of lesser enterprises. Why should the hapless shippers of freight have to pay more to compensate for losses sustained in other lines of activity, particularly when it is a foregone conclusion that the increases will bear unduly upon individuals living in one section of the community? Questioned on this point, railway witnesses expressed their opinion that this course was fair and reasonable! Of such stuff is the railway case built.

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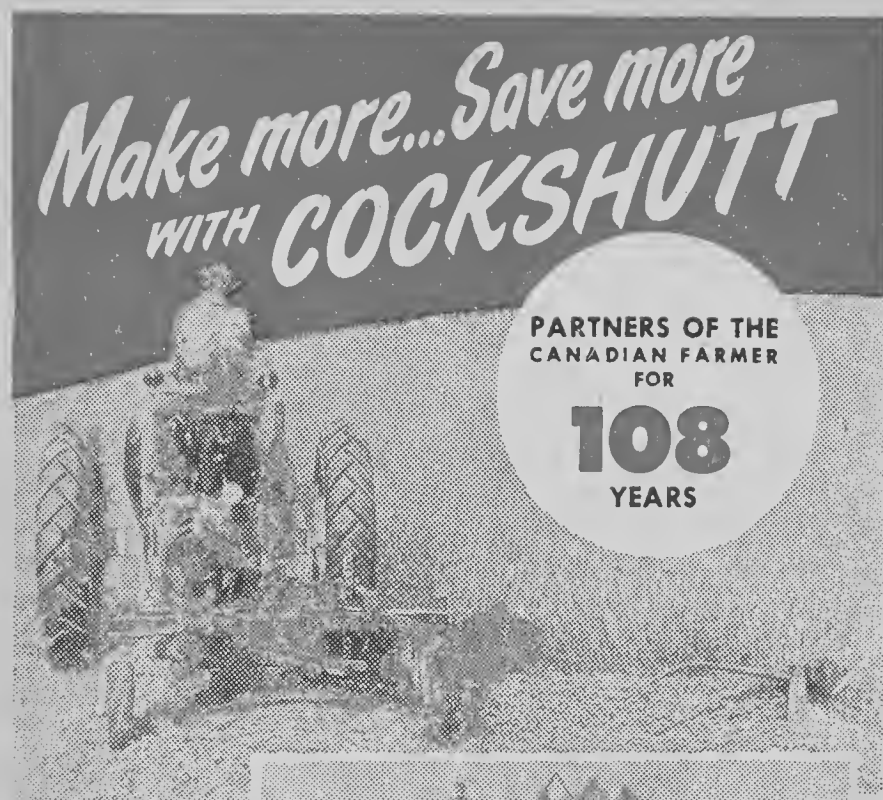
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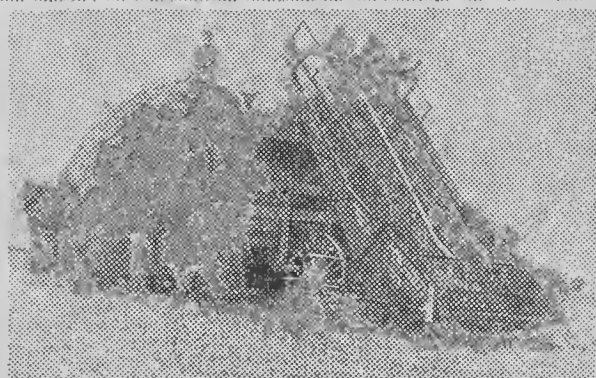
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LIVESTOCK



T. H. Bowditch talks over the day's work with his two sons, Charlie (left) and Gordon (in truck).

Dairying In A Dry Area

His boys and the calf clubs got him into purebreds and herd improvement but he got into municipal work himself

T. H. BOWDITCH, Success, Saskatchewan, and his three sons, Gordon, Charlie, and Walter, operate between them fourteen quarters of land, of which nine are workable and eight are owned. Walter, who was in the Air Force, wanted to farm when he returned, and with some help from his father, obtained a half-section. Charlie also has a half-section. Bill, a fourth son, runs a show of his own at nearby Pennant.

Dairy cattle have been the backbone of the farm business for a number of years, but the credit for this appears to be divided between the boys and Eric Beveridge, now Livestock Commissioner for Saskatchewan. It appears that Eric, when agricultural representative in Swift Current, went out to the Bowditch farm and got the boys interested in the calf club idea and in livestock. Pretty soon the boys began to ask their father to buy some purebred Holstein cattle, with the result that he did purchase three purebred heifers. With this start, the herd gradually increased until by 1936 it consisted of 20 milking cows, though by 1940, as a result of the war years, it had decreased to 10 or 12 in addition to calves. Meanwhile, however, average milk production in the herd, which was 6,742 pounds for 10 cows in 1933, reached 11,950 pounds for a similar number of cows in 1944. Butterfat production, too, increased, and rose from 236.2 pounds in 1933 to 389.3 pounds in 1944.

During the war years, only the two boys, Charlie and Gordon, were home, after having been turned down for the Air Force; and it was pretty hard to milk 20 cows in addition to looking after the hogs and working the tractor and teams. Mr. Bowditch himself took care of all odd jobs and the hogs, but without a milking machine the only thing left to do was cut down on the number of cows. He came near buying a milking machine, but eventually gave up the idea, one reason being the difficulty of getting power. The farm has had 32-volt power and several motors but the milking machine could not be run from the 32-volt outfit. Table cream is shipped to the Saskatchewan Co-operative Creamery at Swift Current, and of course the farm is under inspection from the health authorities there. Mr. Bowditch says that if it hadn't been for his own boys during the war years, he would have had to cut out dairying entirely and substitute 25 or 30 head of beef cattle.

The old saying that circumstances govern cases has been influential in the experience Mr. Bowditch has had in Canada. He and his brother and brother-in-law came to Canada together in 1907. All three started to work at Francis, Saskatchewan, and the two brothers spent the most of three years there. In the winter of 1907-08, however, as the result of information given by a man they met who had filed on a homestead, they thought they might as well get some of this raw land. They filed at Moose Jaw, intending to prove up on the homestead, sell it and go home to England. It didn't work out that way. They were slow in getting their preemptions, and 1910 was a dry year. By the fall of 1911, however, having purchased three oxen for breaking, and harvested a nice crop, T. H. was able to go back to the Old Country. He got married and returned to Canada in the spring of 1912 for good.

In the summer of 1911 they had broken ground for trees, and in 1912 planted four rows in a hundred-yard square around the farmstead. In all, Mr. Bowditch says he has planted around 35,000 trees.

Not so long ago he completed 16 years of service on the municipal council. His period included all of the drought years, during which he found himself away from home about four days a week on relief work. The municipality is the second largest in the province, and includes 16 townships. When I suggested that he must have liked municipal work, he said yes, he found it very interesting, and though he wished he were out of it many times, it was on the whole attractive and provided a very useful experience. During his long period in the West, he has seen the area in which he lives develop from almost nothing to practically complete settlement. In 1907 he had no neighbors west of the homestead, although the Pennant area to the northwest was settled. Straight south there were two homesteaders, but the big crowd came in 1909 and took up the odd-numbered government-owned sections. In 1909, the land was open for preemption and in this year Mr. Bowditch took up another quarter south.

In the record low-crop year of 1937, he suffered, of course, like almost everyone else in Saskatchewan, except for the northeast corner of the province. In that year there was no feed, and he shipped his entire herd, along with some cattle belonging to his nephew and

his brother, in two cars, to Manitoba, where he had rented a place with buildings and shelter as well as native hay. By this means he saved his herd. Two of the boys, Charlie and Walter, stayed with the cattle all winter and looked after them from August, 1937, to June, 1938, when they were brought back. They had to ship to Arden and

drive north 25 miles to Glenella, after having gone down in August and put up a large quantity of relatively poor native hay and later purchasing two stacks of clover to help in quality. The cattle came back in reasonably good shape, but the main achievement had been the saving of the herd.—H.S.F.

Any Money in Hogs?

The Alberta Department of Agriculture calculates present costs and profits from hog feeding

NO doubt thousands of farmers in western Canada have been seriously considering the advisability of maintaining, increasing or decreasing hog production, since the announcement in March of the Dominion coarse grains policy. The result was to raise ceilings, and increase supports under oats and barley until July 31, 1948, and to provide a price subsidy of ten cents on oats and 25 cents per bushel on barley to purchasers of these grains for feeding purposes. This feed subsidy, which is not available to the hog feeder who has produced his own coarse grains, is to be removed at the end of July.

It is probably correct to say that the initial response to the new policy on the part of a great majority of farmers in the three prairie provinces was definitely unfavorable. Whether the critical comment represents keen disappointment only, or a definite decision on the part of a considerable number of hog raisers to reduce their hog operations, remains to be seen. The outturn of fall litters will pretty well tell the story.

The province of Alberta has been persistently and more or less strenuously encouraging the maintenance of hog production at levels around the two million mark. Calculations have now been prepared by A. J. Charnetski, Livestock Supervisor for the Department, showing hog production costs in Alberta as of April, after the introduction of the new Dominion Government policy.

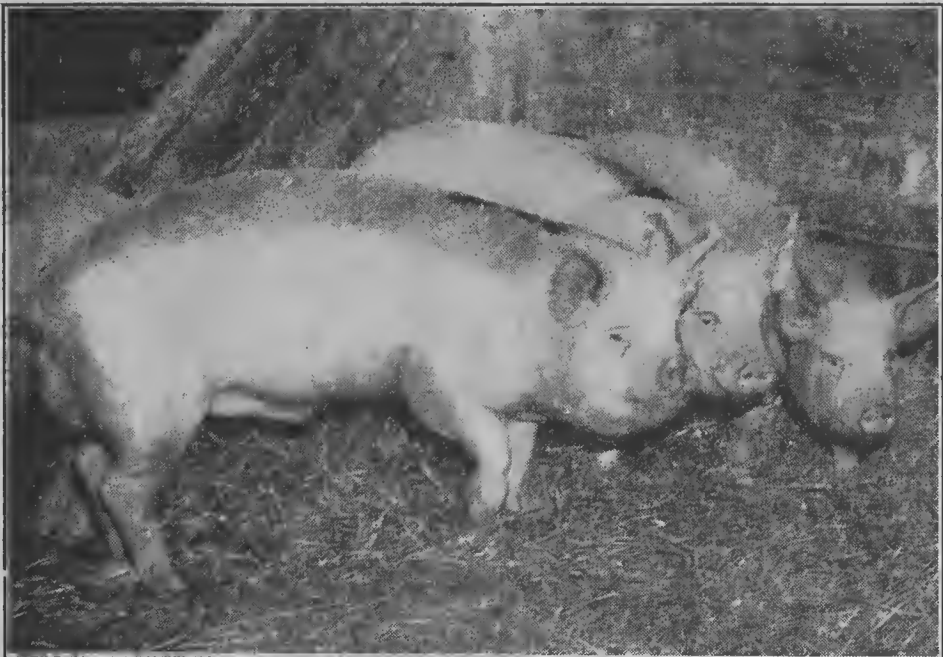
Inasmuch as the bonus on purchased feed grains is to be removed August 1, the most interesting calculation made by Mr. Charnetski shows the difference in returns to the farmer between his position on February 1 based on previous grain prices, and on April 1 after the new grain prices were in effect. The calculations are based on Edmonton prices for farm grain delivered to the elevator, and are shown in terms of cost per 100 pounds of feed grain. On this basis, the increase in the cost of oats was from \$1.45 per 100 pounds to \$1.51; on barley from \$1.33 to \$1.57; and on farm mixed grains (one-third oats to two-thirds barley, with ten per cent protein concentrates added), the in-

crease was from \$1.70 per 100 pounds to \$1.89.

The feed required per 100 pounds of gain, is taken at 450 pounds for pigs up to 210 pounds and 500 pounds for hogs over 210 pounds. Dressing percentage was calculated at 75 and 76 per cent for the same two classifications. Money return from hogs was calculated on the minimum basis established by the Canadian Meat Board, which was \$19.90 at Edmonton for Grade A and \$19.50 for Grade B1, which figures will become \$21.55 for each grade, after September 1. Net profit shown in the calculations is calculated only after all production costs, including labor, have been deducted. A 40-pound weanling pig was priced at \$7, protein concentrate at \$3.50 per 100 pounds, grinding \$2 per ton, labor at \$1.50 per 100 pounds of live pig, freight to market at 25 cents per 100 pounds, and mixing of feed at \$1 per ton.

The calculations show that by reason of the increased price the hog raiser can secure for home-grown grain, his oats now cost him 51½ cents per bushel as compared with 49½ cents, and his barley 75½ cents as compared with 63¾ cents. At prices ruling on February 1, oats fed to hogs returned a gross price of 85½ cents per bushel, showing a net profit over commercial market prices of 36 cents per bushel, while barley made a gross return of \$1.13¾ per bushel, showing a net profit of 50 cents per bushel as a result of marketing it through hogs. Since April 1 the calculation shows oats returning 81½ cents per bushel, barley \$1.17½ per bushel, for a net return per bushel of 30 cents for oats and 42 cents for barley.

Most interesting is the calculation showing the net return per pig and net profit per 100 pounds of feed used for Grade A weighing 210 pounds alive, Grade B1 the same weight, and Grade B1 weighing up to 230 pounds. Under the new grain prices, Mr. Charnetski calculates that feed will show a net profit of 81 cents per 100 pounds and a net return of \$6.20 per pig for Grade A hogs. This compares with 73 cents net profit per 100 pounds of feed used



These purebred Yorkshires look as though they, too, were in doubt about the future of hog production in the West. (Alta. Dep't. of Agr. photo.)

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when fed to B1 210-pound hogs, for a net return per pig of \$6.67. Interesting is the result of a comparable calculation which shows that B3 hogs return a net profit of only 68 cents per 100 pounds of feed used, heavy hogs no more than 41 cents. All these figures are exclusive of Dominion Government premium on quality hogs. Where the Dominion Government premium is included, the net return per pig on Grade A hogs is raised to \$8.20, and the net profit per hundred pounds of feed to \$1.07.

It would appear from these figures that whereas the hog feeder who feeds his own coarse grain has lost eight cents in net profit per bushel of barley and six cents per bushel of oats by the increase in grain prices, there is still money in hogs which will return 50 cents per bushel of barley and 42 cents per bushel of oats over market prices, or show a net profit per 100 pounds of feed used for feeding Grade A hogs, Government premium included, of \$1.07 per 100 pounds of mixed home-grown feed.

To Provide Extra Feed

THERE is a shortage of feed grain in Canada and there is a shortage of labor. The advance in the price of feed grains has caused many farmers to consider selling more wheat, oats and barley for cash. Here is a hint or two to help the situation. For poultry, sow some millet and feed it in the sheaf to your poultry. There will be no waste. Sow 20 to 25 pounds of millet per acre around June 1. Crown is the best variety in this area. Make a good seed bed and sow shallow. Also, sow a small patch of sunflowers and save the heads for winter poultry feed, but don't try it unless you have help to get the sunflower heads before the blackbirds.

To help out with feed for your hogs, sow an acre or two of corn to turn the hogs into, around September 1. The corn will make good feed even if it has just reached the roasting stage. If the hogs don't clean it up, the cattle and horses will, if given a chance. Sow the corn in rows the same distance apart as your cultivator is wide, take out the centre teeth and straddle the corn rows when you cultivate. Corn is splendid fall pasture for cattle.

Millet can be used for fattening hogs if mixed 50-50 with oats. If you are raising hogs, try a few acres of millet to help out with the feed.—GORDON McLAREN, Pipestone, Manitoba.

Feed Ewes For Lamb Growth

LIKE young pigs, lambs make their cheapest and fastest gains in weight while they are still nursing. This calls for an abundance of feed to the ewes, which is calculated to make the maximum quantity of milk. As with young pigs, also, creep feeding is advantageous for lambs, since it helps to give them that additional push when they are gaining in weight most rapidly, that will add up to dollars and cents later on.

Ordinarily, comparatively little supplemental feeding is required in the prairie provinces once grass becomes abundant. Lambs intended for the early market, however, and expected to reach most desirable weights at four to five months of age, should be given every advantage earlier in the season before pasture becomes abundant and highly nutritious. This may mean supplemental feeding for the ewe, or the feeding of some whole grains with protein supplements, in addition to all of the high quality hay she will eat. High quality, of course, means as good hay as may be available. If it is necessary to use poorer quality hay toward the end of the season, an additional amount of protein supplement would be desirable. As the grass becomes less washy, both grain and hay can be removed gradually.

Careful Tattooing Preserves Identity

SOME form of individual marking of animals of pure breeding is essential for identification purposes. It is required for registration and transfer purposes, and is highly advisable in case of possible loss or theft. Breeders who attempt to conduct their breeding operations as efficiently as possible, find it advisable to check their own knowledge and memory of individual animals by recorded identification marks.

In Canada, tattooing is widely used, primarily for the reason that if properly done, with ink of good quality, the identification lasts for the lifetime of the animal. Moreover, any attempt to alter or change the tattoo is detectable, while the cost of an outfit is moderate.

The Dominion Department of Agriculture, through its Chemistry Division, Science Service, has for some time been working on one difficulty in the case of sheep, since with some breeds, black tattoo marks deteriorate with age. As a result, a green tattoo ink has been evolved, which with Southdowns and Shropshires has given satisfactory results. The testing of other inks and coloring agents is still under way, with a view to discovering tattoos suitable for all circumstances.

Department officials point out that for successful and efficient tattooing, tattoo needles should be kept clean and sterilized, both before and after use. Ear surfaces of the animals to be tattooed should be cleaned with alcohol, gasoline, kerosene, or carbon tetrachloride, and then wiped dry. A further precaution is to apply additional ink to the skin and thoroughly rub it in, after the tattoo has been made.

Start Building Feed Reserves Now

SOME trenchant remarks on the question of establishing feed reserves in the province of Saskatchewan were made some time ago by L. B. Thomson, Superintendent, Dominion Experimental Station, Swift Current, when addressing the Conference of Agricultural Representatives. Mr. Thomson's comment was based upon the remarks of the Saskatchewan Minister of Agriculture, Honorable I. C. Nolle, that "the production of livestock is basic in solving land use in this Province." It might well be taken to heart by every farmer or rancher in southern Alberta, southern Saskatchewan and southwestern Manitoba, and for this reason it is quoted below:

"In any winter feed program the use of grass for winter pasturing must not be overlooked. Short-grass pastures, when properly controlled from grazing during the summer, constitute a valuable feed reserve. Cattle can be wintered on this grass; and, if necessary, a con-

centrate of oil cake or grain put out on the pasture makes a valuable supplement, easy to handle and feed, and economical. You can only haul hay so far.

"At present the cost of hay hauled any distance is practically prohibitive, as compared to grass and concentrate. Unfortunately the picture of grass feed reserves near the winter headquarters is a dismal one. Most pastures close to the winter sheds are eaten to the roots . . . (therefore) . . . let us plan on a reserve pasture on the farm or the farm ranch. If the snow is too deep, make a snow plow out of some two by eights, and plow out the snow. The cattle will follow the snow plow to get the grass, and if you sprinkle nitted oilcake or grain on the grass behind the snow plow, you won't be able to keep out of the road of the cattle. If it snows again and drifts, well, snow plow it again. It is much cheaper to snow plow on conserved grass than to haul hay 20 miles from a box car, and when you get it home find it is no better than straw and costs you \$25 per ton.

"The wintering of cattle in the summertime is a long story, but the information is available. Since the inception of the Range Station at Manyberries, Alberta, and the grazing work done at Swift Current, we have concentrated on a full line of studies in the use of grass and livestock. By overgrazing pasture, cattle can enter the winter in an unthrifty condition. It takes twice as much feed to carry them through. If cattle are in good condition in the fall, they can afford to lose some weight in the winter and it will not affect their normal weight the next fall. Start building feed reserves in April and don't wait for the hay fork in September.

"All grass hays can be kept in a stack for a number of years without deterioration, provided the stack is properly built. Experimental work has been done and results published.

"Learn the feed requirements of cattle in the event of drought. This has all been worked out, and information can be supplied to farmers to guide them in planning their feed requirements. There is one good thumb rule to go by: To maintain a cow alive it requires ten pounds of roughage, no matter whether she gets it in the form of hay, grass, or straw browsing and the like, but to maintain her in a thrifty condition requires 18 pounds of hay per day. However, you can replace eight pounds of the hay with concentrates, which can be estimated on the basis that one pound of oilcake equals five pounds of hay, or two to three pounds of grain. This means, in effect, that one pound of grain is equal to two pounds of hay.

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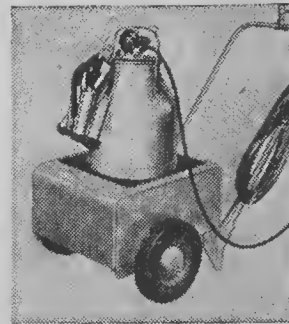
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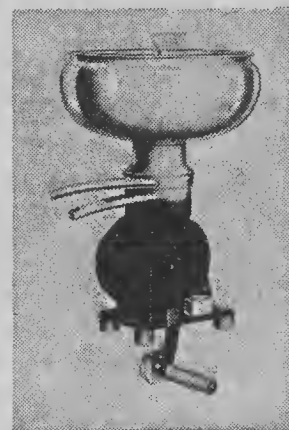
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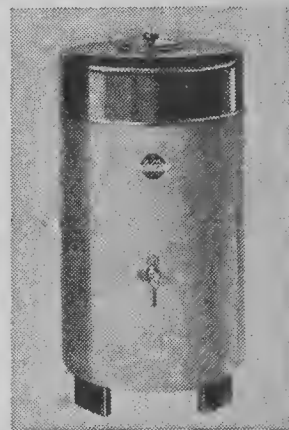
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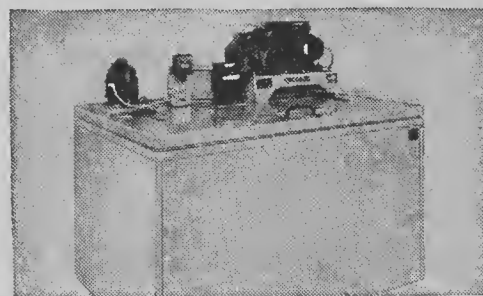
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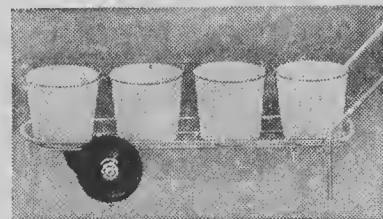
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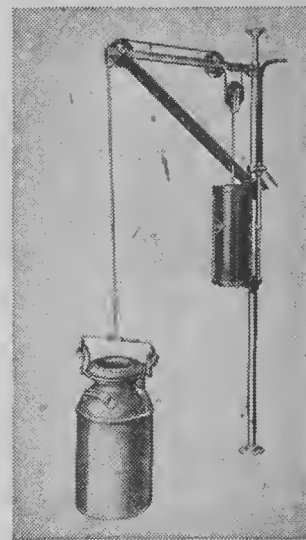
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[Guide photos.]

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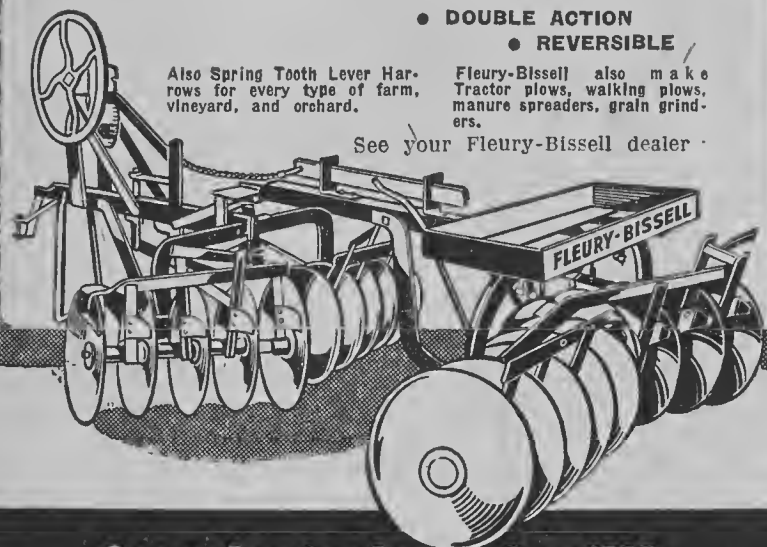
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[Guide photo.]

E. A. (Ted) Lyon, Saanich, B.C., (centre) discusses land clearing on his Vancouver Island farm, with Hugh McPhail, District Agriculturist, Oids, Alberta (left) and J. E. Beamish, Assistant Director, B.C. Land Clearing Program.

Clearing Land The Easy Way

The B.C. Government program cuts a lifetime's drudgery to any specified period and saves both time and money

FARMERS of the plains have their troubles, but they haven't by any means all of the troubles known to farmers. They specialize, perhaps, in drought, soil drifting, sawflies, chronic wheat surpluses and other difficulties common to the wide open spaces. Fortunately for them they miss the hard, backbreaking and everlasting slugging of the bush pioneer, who must clear patiently and persistently, year after year, every square rod of additional land which he hopes to crop. The open plains farmer also misses the soil-building process which the pioneer in grey-wooded soil areas must go through before livestock and diversification can be established.

There is hope, however, for the would-be farmer on bush and scrub land, or the returning veteran who wants a farm where there are plenty of trees, but dreads the hand-clearing methods of an older generation. There is hope, too, for the men who have for years been cutting, piling and burning in order to clear enough land to provide a minimum standard of living for their families, and who still see ahead of them many more untouched acres, with comforts and education for their families further delayed unless something happens.

Something is happening alright, and none too soon. Governments are beginning to realize that it is nothing short of slavery to expect men and women in this day and age to laboriously clear land by hand, when powerful machines are available to topple over big trees with a push, or cut them off at ground level like cheese, or plow under light scrub. There is land in western Canada that used to cost as high as \$300 an acre to clear and put in shape for cropping, which, with the proper machinery and organization, can be made fit for a man and his family at a third or a quarter of the former cost.

he was slated for the Pacific, but instead he found himself able to begin his active farming career sooner than he expected.

When I visited his Saanichton farm last summer in company with J. E. Beamish, Assistant Director of the British Columbia land clearing program, we were able to stand at a safe distance and watch a Government bulldozer push over his sizable trees, clear the lighter growth from the soil and push it into piles for burning. In fact, in the portion as yet uncleared, Mr. Lyon told me he had 30,000 feet of lumber, felled but as yet unsawn, with which to erect his buildings. Some land was already cleared when the purchase was made. He proposed to seed this last summer to a cover crop of wheat or vetch, plow it under this spring and sow it to wheat and oats. On the newly cleared land he would plant late potatoes. The soil was good, light chocolate, sandy loam, with only a few stones, but in need of nitrogen, which vetch would supply, and of potash.

The five acres of land which he himself was having cleared by the Government he estimated would cost him \$80 per acre complete, and as against this he would have wood revenue of about \$40 per acre, after taking out his timber. He had already sold the remainder for \$1.25 per cord, standing.

With his \$1,200 Veterans Land Act equipment loan, he has been able to acquire a tractor, one and two-furrow plows, three-section harrows, a mower and a stiff-tooth or duckfoot cultivator. He felt himself to be well equipped and as happy as a clam. When I asked him how he could justify a tractor on 15 acres of land, he said he had been assured of plenty of custom work to justify the purchase.

THE present land-clearing program of the British Columbia Government is authorized by the farmer's Land Clearing Assistance Act passed by the Legislature in March, 1945. It provides for a fund not to exceed half a million dollars, to be used for the purchase and operation of land clearing machinery and equipment. Contracts are to be made between the Government and owners or occupiers of land, for the clearing and development of such portions of a tract as the owner may desire. Recovery of costs except adminis-

ON Vancouver Island last summer I visited the 15-acre farm of Edwin A. (Ted) Lyon, an Air Force veteran from New Brunswick, who decided early in the war that when it was over he wanted to farm on the Island. With the help of friendly folk, who included a general and a banker, purchase of his little farm was arranged for him, to be held until called for. Just as war ended,

tration costs, may, in extremity, be achieved through taxes.

Farmers desiring to enlist aid under this Act must first apply to the Minister of Agriculture, who then calls for a report from the Director of Land Clearing (W. MacGillivray) who must be able to find that the clearing of such land would be in the interests of British Columbia agriculture and of the owner. If the report is favorable, a contract is then required between the Government and the owner or occupier, in which the lands and the work to be done on it are described, the rate per hour to be charged the farmer for the machinery outlined, and the time of payment.

The Minister of Agriculture might also set up committees to be known as "local advisory agricultural development committees" in any district where much clearing is necessary. These committees, varying from three to five members, may be nominated by farm or local organizations, and may be called on to inspect land in the district, estimate the nature and amount of improvements required, the probable increase in value as the result of the clearing, the uses to which the land would be suitable, the cost of doing the work, and the skill or experience of the owner or occupier. Should several lands require clearing in the same area, the committee may be required to arrange an order of precedence in carrying out this work.

THE land clearing program has been hampered by lack of sufficient equipment. It was hoped that work could be begun in 1946 in nine areas; Vancouver Island, the Caribou, Bulkeley Valley area, the Vanderhoof, Prince George and McBride area, north Peace River, south Peace River, the Kootenays, the Shuswat, North Okanagan and Columbia Valley area, and the Kamloops area. At the time of my visit to the Island only five of these areas were receiving service. Official charges had been fixed initially at \$9.00 per hour for machines

equipped and operated to deliver over 90 h.p. at the drawbar; \$7.50 for 70-90 h.p.; \$6.50 for 45-70 h.p.; and \$5.00 for 30-45 h.p. The intention, however, was to supply service at cost, so that the initial charges were subject to modification based on experience. Before the machines are put to work, farmers are urged to remove slash and usable timber; and all stumps 10 inches and over must be cracked with stumping powder before stump removal is undertaken.

The machinery provided in the southern parts of the Province is equipped with special land clearing blades for the removal and piling of stumps and second growth. Where the tree cover is lighter, consisting of poplar and willow growth, as in the central and northern parts of the Province, machines are equipped with a V-type brush cutter attachment to shear off the brush at ground level. The brush thus cut is piled in windrows with a rake-type blade so that it may be easily burned.

The contract made with the farmer generally provides for a minimum of one-third in cash on completion of the work, and the balance in two annual payments. In some areas, experience has shown that farmers prefer to pay all cash. Should the terms of the agreement not be met, the power to recover through taxes comes into effect.

It should perhaps be added that the Government program includes no breaking of land, and the farmer himself must look after the burning of brush and cleaning up after the machine. The program is still only in its initial stages, but all reports are to the effect that farmers are quite satisfied with the results to date. Costs have varied considerably and, in some very heavy clearing in the Saanichton district, ran as high as \$100 per acre, whereas in other areas with level land, and where a brush cutter could be used, costs have dropped as low as \$12 per acre.—H.S.F.



Shelterbelts Are Good Insurance

PROOF that the use of ample, well-cared-for shelterbelts are one means of providing crop insurance is furnished by these pictures from the Dominion Forest Nursery Station, Sutherland, Saskatchewan. W. L. Kerr, Superintendent, who furnished them, says that the crop is Banner oats, and yielded over 100 bushels per acre, calculating the area from centre to centre of the hedges, and not just the land actually seeded to oats. In this case, the hedges occupy a space about 30 feet wide and are spaced 140 feet apart. Special notice should be taken of the clean cultivated strip between the oat crop and the hedge. Mr. Kerr comments: "There were many poor crops in the district. Shelterbelts are good crop insurance and do not waste land."

Cure for Crop Aches

... The ALL-CROP HARVESTER

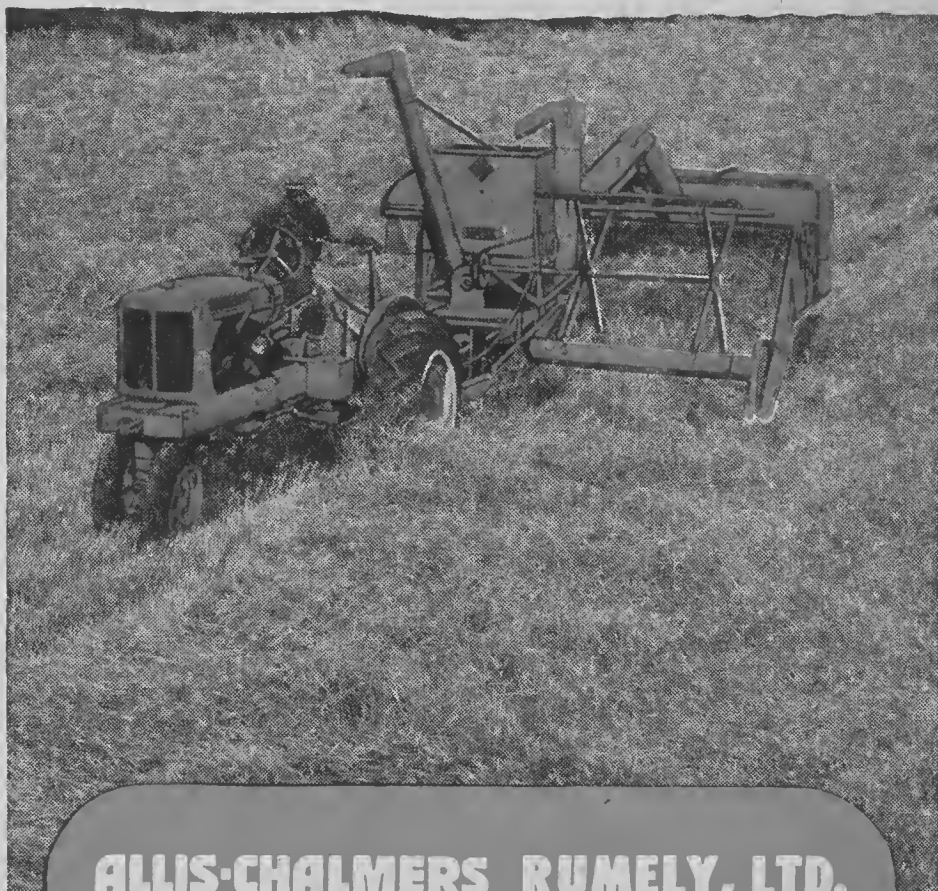
An All-Crop Harvester owner reports that his machine saved 44.7 bushels of wheat per acre from a neighbor's field which was hopelessly lodged and written off as a total loss. The All-Crop handled straw six feet long, tangled and flat on the ground.

Dramatic, yes. But just another job for this versatile pioneer of once-over harvesting.

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A Quick Speed-Changer crank controls cylinder speed instantly for over 100 different grains, beans and seeds. Weed seeds and dockage are screened out by a Scour-Kleen attachment.

Harvest worries disappear when you change to the All-Crop Harvester . . . Successor to the Binder.



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ROUGHAGE AND SOFT CORN TOO"**

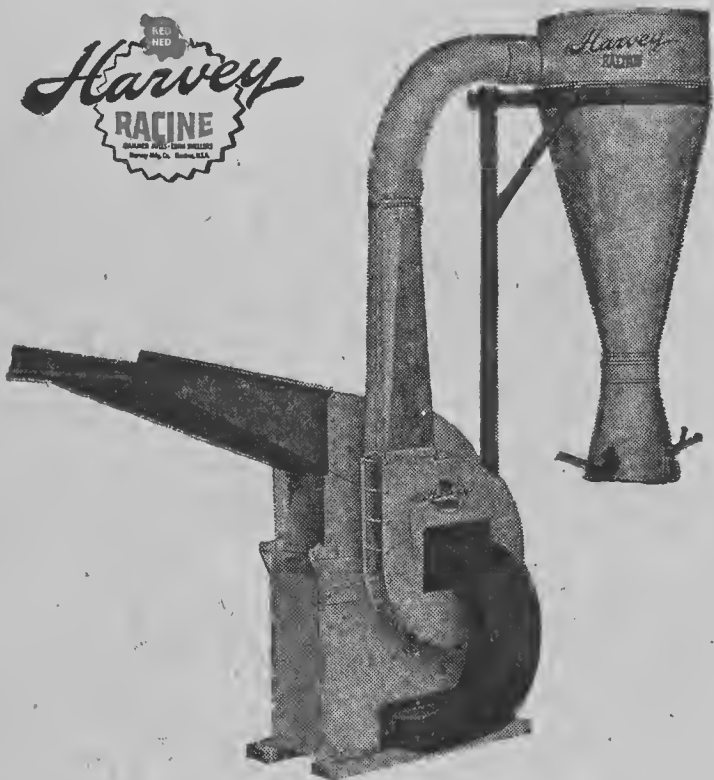
HERE'S an amazing Hammer Mill—built by Harvey and called the Red Hed—which provides a new low cost way to make 4 bushels of feed equal 5 in milk or meat production.

When you see the big grinding cylinder of this great Hammer Mill speed its sturdy swinging hammers at a 3 mile a minute clip, smashing grain or roughage with 80 to 280 twelve-ton blows every second, you'll know that Fly Wheel Momentum is really something! Just a 4, 4½ or 5 inch pulley at the mill does the trick with a Harvey Red Hed Hammer Mill. No wonder the Red Hed is

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I am interested in learning how I can earn more money by grinding feed with your Red Hed Hammer Mill. Please send me full facts without obligation.

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Why Can't We Have Sorghum?

HAVING grown a small quantity of sorghum, called Early Amber Sugar Cane, in the Swan River Valley of Manitoba, and made several gallons of excellent syrup by means of the old English type mangle, I see no reason why it couldn't be grown for commercial syrup.

Early Amber Sugar Cane sown as near the first of June as possible in a suitable season, makes a wonderful delicacy to those who like molasses. It has a far more attractive taste, luxurious in its rarity and indescribable. I would like to see it imported, which seems to be out of the question. I have never seen it on the market. Why cannot we grow it and use beet sugar refining equipment to make the syrup, if we cannot import it?

I do not know how many acres it takes, or what part of an acre, maybe, to make one gallon of syrup, but it takes seven gallons of juice to make one gallon of syrup. It may be more work than most anyone of our present generation cares to even try, but it was fun to our family at the time, and the delicious sorghum for which there was no substitute, was ample pay and lasted a couple of years.

At least we found out how our grandmother made her syrup, and how it tasted. One could make a gallon in not too long a time by using several wash basins and boiling a quart of syrup in one basin very quickly for ten minutes; then moving it to a cooler spot on the range, boiling another quantity quickly for ten minutes, and emptying it into the first basin; and so on until one basin was full, which we then emptied into a larger basin on a more moderate place of heat on the range. We had several of the wash basins on the hot part of the stove doing the quick work at one time, and graduated to the larger, slower heat by degrees. By using enamel one gets "real sorghum taste" in the sorghum, with a real delicate-colored syrup.—**GERTRUDE A. STEWART, Minitonas, Man.**

* * *

Editor's Note: Considerable work has been done at the Dominion Experimental Station, Morden, on the home manufacture of sorghum syrup. The leaves of the plant are removed when the seed has reached the dough state, as well as the seed head and at least 12 inches of the top of the stalk. The balance of the stock is cut off six inches above ground, the stocks then crushed, preferably between heavy steel rollers. Two or more pressings may be necessary.

The juice is collected, avoiding iron vessels, strained through cheesecloth, allowed to settle one or two hours, and poured off to leave sediment in the bottom of the container. Shallow pans are recommended for boiling down slowly. Remove any green scum constantly and carefully: Muddy green at first, it usually becomes amber colored and clear, as the scum ceases forming.

Boiling is continued, with care to prevent burning, until a boiling temperature of 225 degree Fahr. is reached (water boils at 212 degrees Fahr.). The syrup is then cooled, stored in clean vessels to keep out air and dirt, but does not require sealing. Seven gallons of juice make about one gallon of syrup.

Early amber, the preferred variety, grows 4½ to seven feet tall, and matures in 90 to 100 days in southern Manitoba. Use a well prepared, firm, close and preferably sandy loam soil. Seed 2½ pounds per acre in rows 36 to 42 inches apart, and at one to two inches deep, May 24 or later, owing to frost injury to seedlings. Plants start slowly, but after they reach six inches in height they grow very rapidly.

Cultivate frequently close to the rows at first, less frequently and farther from the rows later, enough to keep down weed growth. Trim to one plant per foot.



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SHOULDERS
or COLLAR GALL**

slow up your plowing

• Rub Absorbine in well as soon as swelling or irritation is noticed. Apply Absorbine each day before and after the horse is worked. Be sure that the collar is not torn or lumpy, as this will continue irritation.

Absorbine speeds the blood flow through the injured parts—helps open up small blood vessels, clogged by collar pressure, thus relieving soreness. Swelling usually goes down within a few hours if Absorbine is applied as soon as injury occurs. It is most helpful in checking fresh bog spavin, windgall and curb. \$2.50 at all druggists.

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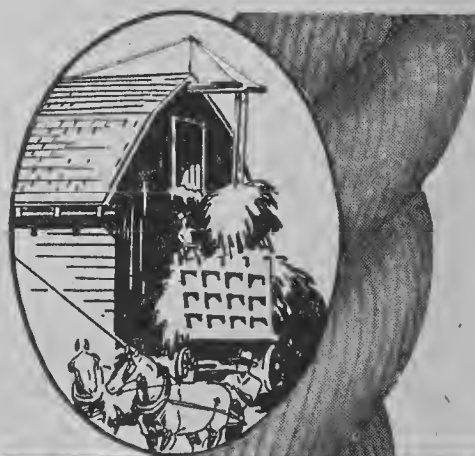
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Winter Work for Enterprising Persons

GEORGE C. BEST, Gilbert Plains, Manitoba, has sent us a most interesting letter, in which his experiences during the years 1941-46 in the custom cleaning of grain are set forth. Mr. Best suggests that on the basis of his own experience, there is a good job in every farming district in the West for one or two good, reliable men during the winter months. Here is his story:

"In the fall of 1925 I was farming a section of land and thought I would like some side-line for the winter months. I bought a Carter Disc Wheat Cleaner, the large size, which had just come out on the market a short time before. It was an ideal wheat cleaner, capacity about 60 bushels an hour. I ran it at a charge of three cents per bushel right at the farmer's farm. One thing I must say is that you must have an outfit you can thoroughly clean out before moving to the next farm; otherwise you would be carrying noxious weed seeds, if any, from one place to another. My first season was a success and I paid for my complete outfit the first year.

"In 1927 I bought the second outfit and put a man out on this one. I was allotted half-a-cent per bushel clear on all wheat he cleaned. This was a good investment for both parties.

"In 1932 I invested in the third and put it out on the same basis. We only cleaned wheat, but we had such a demand for oats and barley to be cleaned that I got a set of barley discs so that we could clean barley part time. I also got a large Bodie Airway Cleaner and, together with the other ones, we could clean almost anything, but especially wheat, oats and barley. A lot of this seed was registered and certified. All the cleaners were run on the half-cent-per-bushel basis at full time through the winter months in the Gilbert Plains and Grandview districts, and we still had more work than we could do.

"The next year I started up a cleaning plant in town for hulling and cleaning sweet clover and other forage seed such as alfalfa, brome grass and timothy seed. I also handled this seed for the farmers to seed houses."

Mr. Best also gives the quantities of the various kinds of seed cleaned each year during the six seasons, and the number of growers served, pointing out that the area in which he lives is considered one of the best in Manitoba for the production of sweet clover seed. He also informed us that last fall he disposed of his grain cleaners, and during the past winter had confined himself to the cleaning and handling of forage seeds.

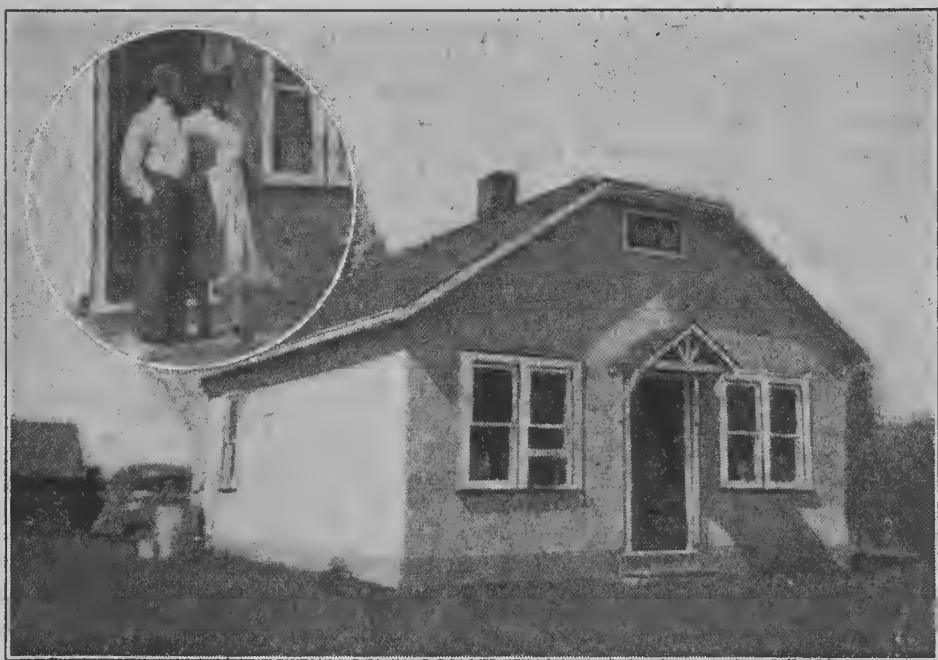
In the following figures taken from his statement, we have used average figures for the 1941-1946 seasons, with the exception of sweet clover, which is the average for seven seasons: Wheat, 108,053 bushels; oats, 8,977 bushels (none the first two years); barley, 18,986 bushels (none the first two years); flax, 860 bushels (1945 only). The average number of farmers for whom grain was cleaned each year was 503. A total of 3,175,008 pounds of sweet clover seed was cleaned during the seven seasons, averaging 453,572 pounds. In addition, an average of 57,194 pounds of other seeds was cleaned during the first six seasons, for an average of 192 customers. Also, 3,863 bushels of certified fibre flax seed were cleaned for overseas shipment.

From this record it would appear that Mr. Best's suggestion that work of this kind would benefit the country and give employment to a number of young men during the winter months, is timely.

Up-to-date Bulletin

IN April, an attractive new bulletin entitled "Whither In Farm Practices?" was published by the Manitoba Department of Agriculture, on recommendation of the Manitoba Agronomists' Conference. The bulletin covers only the newer things in Manitoba's farm practice, and will be available from any agricultural representative's office throughout the province.

Ominously interesting is a double page chart of field crop diseases in the centre of the bulletin. It lists 43 diseases of field crops, indicating the parts of plants which are affected, the main symptoms of the disease and, in very brief form, the method of control.



They Retired on the Farm

WHEN Nathan Martindale, who lives in the Lenswood district near Birch River, Manitoba, was asked how his plan of retiring on the farm was working out, he looked around at his garden containing an abundance of fruit, flowers and vegetables, and said, "This is the life!"

The picture above shows the small cottage on the Martindale farm, and (inset) Mr. and Mrs. Martindale standing outside. The home site is on a beautiful location atop the high bank of the fast-flowing Swan River. Northeast is a fine view of the Porcupine Mountains.

Mr. Martindale homesteaded this farm in August, 1914. Since then he has carried on a successful mixed farm. Sometime ago he decided to retire, but, unlike many others, he did not move into town. He decided to stay right on his farm; and to carry out his plan of retiring on the farm, he has seeded the whole of his cultivated land down to an alfalfa-grass mixture. He keeps a team and a few hens and these, with his garden, his fine location, his plan of running the farm with a minimum of labor, enabled him to say with emphasis, "This is the life!" —F.L.D.

"You just can't beat this combine, Bill!"



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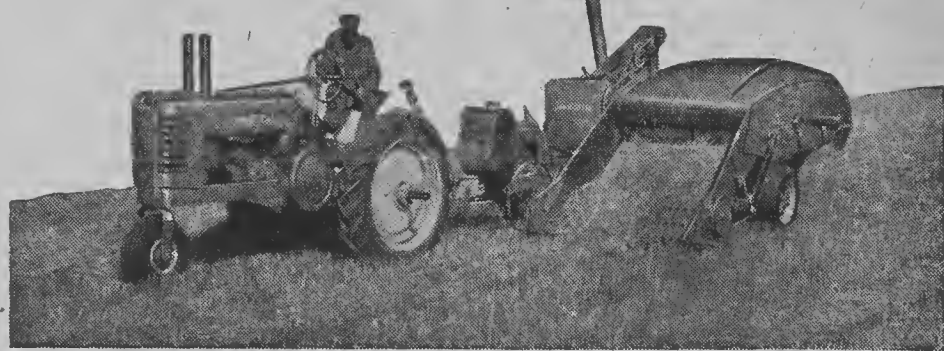
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*That's Where They Show the
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*That's Where You Hear Farmers
Say Case Combines are . . .*

Head and Shoulders Above the Crowd



● Cylinders with extra threshing power for tough crops . . . proportioned just right for full-width feeding from windrow as well as standing stalk . . . plus super-separation by full-length straw racks . . . and finally Case Air-Lift cleaning—these are some of the reasons why Case combines meet and master harvest conditions of the Prairie Provinces. The 6-foot "A," shown here, the 9-foot "M" and the 12-foot "K" offer a size and type for every acreage and every Canadian condition.



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See your Case dealer now. More and more Case combines are being built, but you may have to wait a little longer; see dealer about delivery dates. Ask him or write us for full information on any size combine, also the Case 12-foot windrower that makes a better supported, better-cured windrow. Mention if you need a tractor, plow, grain drill, etc. J. I. Case Co., Calgary, Edmonton, Regina, Saskatoon, Winnipeg.

ALBERTA FIGHTS THE KILLER TICK

Continued from page 12

These nymphs hibernate in the winter and in the spring come up hungry. True to the pattern, they take up their position on some bush to which they take a fancy and await their host, again preferring small animals. As the animals move past the nymphs are brushed onto them and work their way down to the skin. Then feeding begins. In about 10 days the females are engorged and drop to the ground and when they reappear in the tick cycle they are adults.



A field crew dragging for ticks.

It all takes from two to three years.

The adult ticks may find either a host animal or they may hibernate until the following spring. With the spring these adults, out for an overdue meal, crawl onto vegetation and wait to "get their man." This time they are ambitious. They attack only animals as large or larger than rabbits and man is definitely not overlooked.

These observations were made during the tick survey, a job that has yielded since 1938 over 38,000 drag ticks and 3,851 host ticks. These ticks were taken in 312 separate collections and of these, two collections were positive for spotted fever and 16 positive for tularaemia infection. These figures cover the field work up to 1946.

IN the field campaign two persons constitute one crew. Each crew is provided with a panel truck equipped with vials, tick drags, mailing boxes, maps and equipment for collecting the ticks. Two parties are sent out the first of May remaining on the tick survey until the middle of August, when they transfer to the tularaemia work. Southern Alberta is a little empire in itself and the crews are often widely separated sampling the tick population of various areas to determine if spotted fever infection is present.

Crews are recruited usually from the Medical School at the University of Alberta as these fellows have the advantage of previous study in zoology, bacteriology and entomology. They are bug minded to start with. Furthermore, they must be prepared to stay for at least three years so that the continuity of their efforts will not be broken.

Since the survey started there have been six cases of spotted fever—two of which were fatal—three cases of tularaemia and two cases of tick paralysis reported. Of the findings to date Brown says this:

"There is no doubt but that a serious condition of spotted fever does exist

in southern Alberta. However, with the work already accomplished and the large number of persons now inoculated in the infected areas, an increasing number of new cases is not expected.

SOMEONE had called these "preventive measures"—proper safeguards. Let's have a look at them. First of all then, there's personal care—the nightly examination of the body if we happen to live in the "tick belt" during the danger period—April 15 to July 15. The ticks are most active then. Better strip down to the skin to make a good job of it. Then there is the careful scrutiny of youngsters, especially, if you please, behind the ears and around the back of the neck. How junior will like that!

Then there is the wearing of "tick-proof" clothing—trousers or slacks

tucked into socks or breeches, and high boots. If one is dressed so that the clothing overlaps from bottom the ticks are less liable to work their way through the clothing to the skin.

"In the tick country women should dress like men," someone has said.

Vaccination is the major preventive step. It has been demonstrated effective. Again referring to western Montana, over a 15-year period in which the vaccine was used the figures tell the story. In these years over 80,000 persons were treated.

The impressive showing of immunization in the United States inspired the Alberta health authorities to make the tick clinic an essential part of their campaign. The clinics held in the early spring are real red letter days in the communities. Father, mother and kiddies pile into the family car and off they go to the clinic centre. "Doc" Brown tells about a typical clinic, the pioneer venture at Manyberries:

"During 1941 spotted fever infected ticks were located in the coulee of the north branch of Manyberries creek at Manyberries. This area was thickly settled, a mile or so from the town of Manyberries. Two deaths had occurred in neighboring families in this area. The finding of the infected ticks led us to confirm the deaths as being from spotted fever.

"A public meeting was arranged at Manyberries and all farmers, ranchers and other residents were asked to attend. At this meeting we explained the seriousness of the situation and proposed that all persons, old and young, living in the neighborhood be vaccinated, with the government doing the job free of charge. The Manyberries Women's Institute is an active organization and fell in with the plan from the start. The women agreed to organize the clinic and supervise it. It was agreed that no time should be lost.

"Saturday, being market day, was selected as the best day for the clinic

and three consecutive Saturdays were designated as such. The clinic was widely advertised by poster, in the papers, over the radio and by announcements in schools and churches.

"Reminiscent of Paul Revere, cowboys riding the range carried the word to remote points. The campaign worked. On the first day of the clinic farmers and ranchers and their families streamed in for immunization. It was like Old Home Week. The W. I. ladies sorted out the applicants, took their names and prepared them for vaccination. Dr. Howard C. Dixon and Miss M. E. Hagerman, provincial health nurse, took over from there and the work proceeded with assembly line precision. Some were opposed at first to vaccination on religious or other grounds and caused a bit of trouble but this prejudice was broken down when the urgency of action was explained."

Now the "tick belt" folk appreciate the clinics and the "safety first" campaign they are waging. Manyberries, Redcliff and Thelma immunization centres attract dad, mother and the kiddies. All applying are vaccinated regardless of age. By 1945 the clinics were doing a land office business, the count at the end of the season showing 425 treated at Manyberries, 516 at Redcliff and 132 at Thelma. A record is made of each vaccination along with any reactions. Fortunately, there have been no serious reactions to date, a fact that has helped much to win public favor for the treatment.

A litre of this anti-tick "medicine" costs around \$300. But this doesn't frighten anyone for the cost is borne by the province.

The crewman's job is not fun nor is it without personal risks. The crews go over areas suspected of harboring spotted fever ticks armed with heavy-napped blankets. These blankets they drag over the ground to pick up possible fever-infected specimens. From time to time they remove the ticks that may have accumulated on the blankets, placing them in vials for forwarding to the government laboratory at Kamloops, B.C. If any of the bottles come back

of the experts. Ticks removed should be burned.

When sterile instruments are at hand, ticks may be dislodged easily by pulling the tick gently so as to make a "tent" for the skin surrounding the wound and then slipping the point of a needle under the mouth parts with the minimum of tissue. When the tick is removed iodine or some other disinfectant should be applied. A silver nitrate pencil, which can be bought for a few cents at any drug store, is handy for outdoor use.

Fortunately not all the ticks that go about trying to bite people are infected. One estimate is that not more than two per cent are infected but it is to protect the public against that two per cent that Alberta declared war on the whole "bag of ticks," and to date the survey has shown that positive spotted fever infection is confined to the Manyberries, Medicine Hat and Lethbridge regions.

TICKS carrying tularaemia have been found at Walsh near the Saskatchewan border and at Seven Persons. In addition to the disease this plague spreads among humans it is a known transmitter of tularaemia, tick anaemia and tick paralysis in horses, cattle and sheep. In one case over 1,200 feeding ticks were removed from one horse in a sagebrush pasture in the tick area. There is also an authenticated report of 25 sheep dying of tularaemia in the south part of the province and this condition may be quite extensive in the range country.

This tick campaign in Canada's foothills province is well established but far from finished. To quote in conclusion: The year 1946 shows 1,081 persons vaccinated against spotted fever in Alberta; 586 at Redcliff, 358 from Manyberries, 106 from Thelma and 31 from Medicine Hat. No serious reactions occurred in these treatments. Looking ahead, plans are completed for a vigorous continuation of the tick war this year. There can be no retreat in the program for the enemy is at the gates and what is Alberta's problem might



"There! It didn't hurt, did it?" But Sonny is not so sure. The doctor pays attention to business while Nurses Trotman and Hagerman look on. Redcliff, 1944.

marked positive in reaction the residents of that area are warned in very positive terms that they are exposed to spotted fever and should be immunized at once.

And just what should one do if a tick should make a safe landing? The answer is simple—remove it pronto! The sooner the better. The experts say the best way to remove a spotted fever tick is with the fingers—gently. Don't get tough. There is an opinion abroad that spotted fever ticks so removed may leave their mouth parts in the body. But this is not so, in the opinion

be Canada's tomorrow. That is how Alberta's entomologist, J. H. Brown, feels about it.

"To date we have not tried to fight against the spread of the tick," he says, "but rather have concentrated on protecting persons living in tick-infested areas against spotted fever."

"We hope in the near future to study a program utilizing a modified dipping process for the control of ticks in areas where sheep abound. So you see this job of fighting ticks broadens as we proceed, and the co-operation of all interests involved is what we ask."

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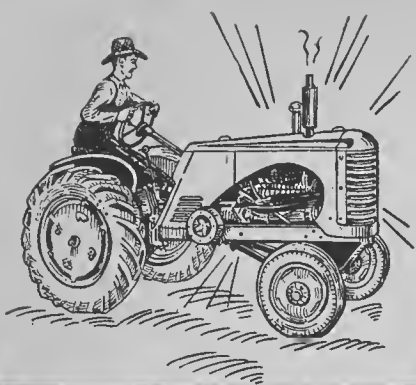
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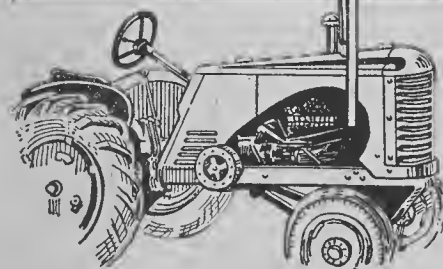
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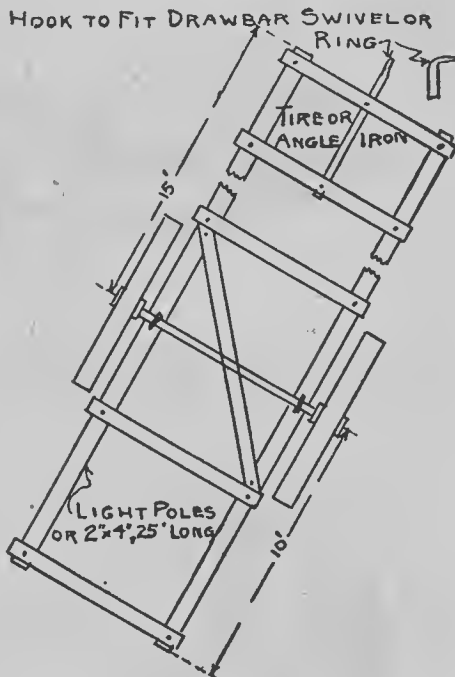
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Handy Tractor Harrow Cart

This is a handy cart to move a tractor harrow from one field to another, or through gates and over bridges. Use the wheels, boxes, and axle of an old mower. Bolt two long poles to the boxes, making the front part about five feet longer than the rear so as to throw part of the weight on the tractor drawbar. Bolt 2x4 cross pieces on the poles, and at the front bolt a piece of heavy wagon tire with a hook to fasten into the drawbar link or clevis.

The iron mower wheels would be rather noisy and jolty on hard roads, but this trouble could be overcome by wiring or riveting two auto casings together and slipping them over each wheel. The exact method of fastening



the poles to the boxes is not explained, and this will depend to some extent on the make of mower, but in some cases it may be advisable to clamp the poles to the frame, sawing off any projecting parts which are in the way.—I.W.D.

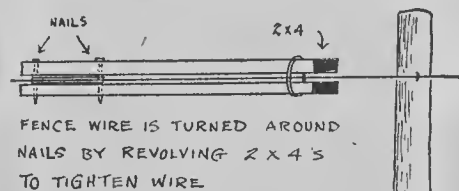
Homemade Screen Door

When fly time comes you need screen doors. Here is an easily made screen door that any amateur can make. The dimensions are for a standard size door, 6 feet 10 inches by 2 feet 8 inches. We used ordinary 6 inch ship-lap, ripped it up the centre and planed it down to a width of 2½ inches for the top and sides. The bottom board is five inches wide, and 27 inches long. From the crosspiece centre to the bottom, measurement of board is 31 inches long. The door frame is put together by skotch fasteners which can be bought at the hardware. The door requires 2 1/5 yards of 29-inch wide screen and two good hinges.



Fence Tightener

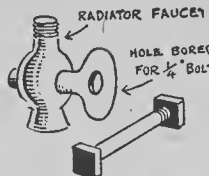
This is a simple device for tightening a strand of barb wire. Two bits of 2x4 stuff or smaller have nails driven



through as shown. The last nail has to be put in after the tightener is put on the wire. By turning the 2x4's horizontally the wire is tightened. They are then fastened with a bit of soft fence wire.

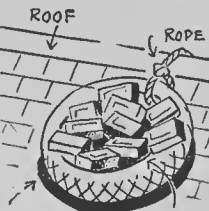
For Hard-to-open Faucets

After having some difficulty in turning faucets of the type shown, I decided to bore a hole through the handle and use a small bolt for leverage. A ¼-inch stove bolt was the one used. It works well and will not shake open.



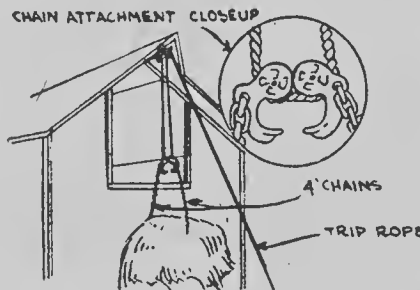
Aid in Building Chimney

When building or repairing a chimney it is not necessary to make a bench or stand on the roof to hold the bricks and mortar. Just take two old tires, wire them together, and throw them over the saddle of the roof. Put the bricks in one and the mortar in a box in the other.



Hay Mow Helper

When putting up hay, fasten two chains each 3 to 4 feet long from the lock-up part of the pulley down to the handle of the hay fork as shown. These chains let the load taken up by the fork swing easily back and forth in the mow.

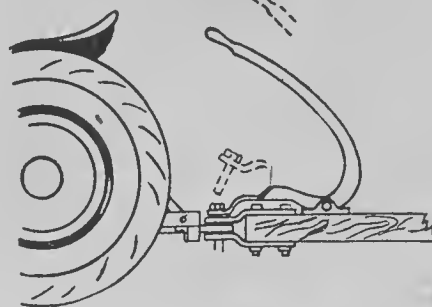


The man in the mow uses a long pole to swing the load towards the wall and at the farthest point the fork is tripped. This device saves the time and labor which would be used pitching it over to the wall. The door must be large enough to let the lowered fork in without dragging too much.—I.W.D.

One-man Hitch

A subscriber sends this diagram of an idea for unhitching from a tractor without getting off the seat. He says it works fine and saves a lot of time and bother getting unhitched from a disc or other implement.

This is surely a handy device. However it is open to the objection that such a coupler would have to be installed on every machine to which the tractor must be coupled. Would it not be possible to have the lever installed on



the drawbar itself, so it could be used with any implement? Then if a support block were hinged under each tongue so the tractor could be backed up close and the tongue adjusted to just the proper height so a V-shaped clevis would slip over the end of the drawbar, the implement could be hooked up from the tractor seat, making it truly a one-man hitch. The support block would have to be hooked back to the tongue if the implement has to be backed, and some lever or tapping may be necessary to get the proper alignment of holes side-wise.—I.W.D.

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WHAT ROOTS REVEAL

Continued from page 7

face six inches of soil. Notwithstanding this, however, grain crops following alfalfa and sweet clover have, on the prairies, yielded heavier than following the grasses.

In tests made at the Brandon Experimental Farm over an eight-year period, wheat after sweet clover and after alfalfa averaged 41 bushels per acre, 35 after western rye, and 33 after brome. In these tests the sod was plowed up after the removal of the first cutting of hay in the first year of the hay crop. In another trial where a whole season was used to break and summerfallow the sod, wheat after alfalfa yielded 50 bushels per acre, 44½ after a combination of brome and alfalfa, and 41½ after brome alone.

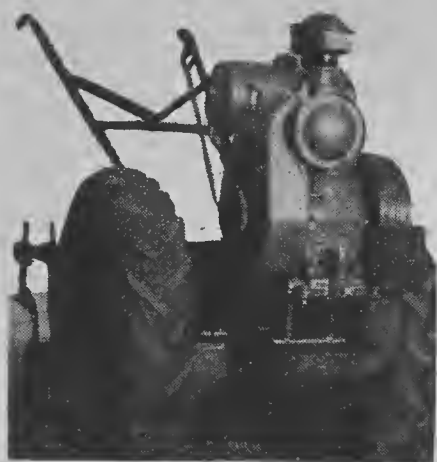
During the drought years, in a few of the drier districts, there sprang up a belief that land not cropped, but left to weeds for a year or two, became invigorated and when brought into cultivation again, produced heavier grain crops because of the rest period. The explanation is possible that the accumulated roots of the weed crops furnished organic matter upon which the soil bacteria could work, thus increasing the plant food made readily available for the succeeding grain crops.

THERE is one weed that has saved, by its vigorous, underground growth, thousands of acres of abandoned light sandy soils. This is the much feared couch grass. Its running rootstocks carried by tillage implements from one part of a field to another, found a congenial home in the light sandy soils; and small infestations soon became large patches. In a comparatively few years many thousands of acres of land were protected against soil erosion by this grass.

In 1935, when two sections of abandoned land were taken over under the P.F.R. Act by the Dominion Experimental Farm, Brandon, for a Reclamation Station, there was one quarter-section of solid couch grass sod. There was another quarter nearly all covered mainly by annual weeds, and a third quarter, where surface soil erosion was quite serious, only partly covered with weeds. The crop yields from these three quarters were compared after the land had been under cultivation for several years. The yields from the couch grass quarter gives some idea of the soil improving qualities of the grasses. The yield from this quarter averaged 24 bushels of wheat per acre; from the weed infested quarter, 17 bushels; and from the badly eroded quarter, 11 bushels.

While weeds may improve soil in periods of abandonment, it is not suggested that alternate periods of cropping and reverting to weeds be practised. It is urged that crops of economic importance be rotated. Because of the soil-building character of the grasses, and the nitrogen-adding qualities of the alfalfa and sweet clover, these should be combined and form part of the cropping plans of every farmer. The rotations will vary as between districts, but plans can be obtained from every experimental farm and station and from university farms. The influence of the root system of one crop on succeeding crops is only one more urgent reason for a wide-spread adoption by prairie farmers of rotations suitable to the district in which they operate.

(Note: M. J. Tinline, now retired, was for 34 years in the employ of the Dominion Experimental Farm Service, and spent 32 years as Superintendent of the Scott, Saskatchewan Station and the Brandon Farm.—Editors.)



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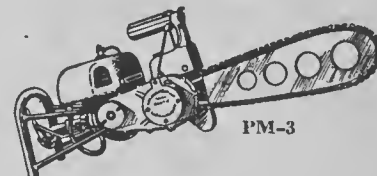
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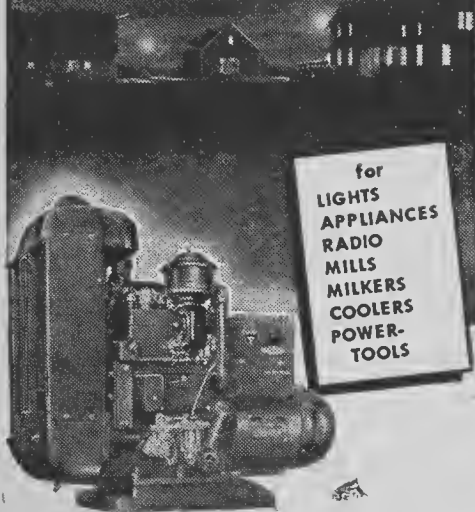
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The pictures on this page show summer and winter views within the protected area on the farm of Guy Compton, Killarney, Man.

FARM WINDBREAKS PAY DIVIDENDS

Continued from page 13

Our shelterbelt includes caragana, elm, ash and maple. They were planted some distance back from the buildings to give a spacious appearance to our farm home; also to allow sufficient space for a large garden inside the shelterbelt. This was a good idea. Snow collected in the trees and provided ample moisture to give the garden an excellent start. The hot, drying winds were broken during the growing season. And then with our feathered friends, the birds, building their nests and feeding their young, and the lush green of the growing trees, I always thought the garden was the pleasantest place to work during our summer days. Our garden always grew!

The trees proved their usefulness in giving our chickens ample shade from the hot summer sun and wind, and shelter from bothersome hawks. Coyotes which seem to prowl around in the field do not come inside the trees to the farm yard.

This winter has certainly shown the practical value of the shelterbelt. As blizzard followed blizzard, the snowdrifts piled higher and higher until only the tops of the trees were visible, but they were building up a parapet which kept us from feeling the full blast of the storms of late January and early February.

Such was its efficiency, there was only a foot or two of snow in our farm yard. We had no digging to do. Our leghorns kept comfortable in an ordinary henhouse. Egg production never dropped at any time during the winter. The cattle were unable to go to the strawstack, but we fed them in comparative comfort in the yard. The cows missed a drink on only two occasions. Milk production was good also. We had no snow at all around the house. My clothes lines were accessible at all times.

We think that this winter the shelterbelt has well repaid us for all our hard work in persuading it to grow.—OLD TIMER, Kedleston, Sask.

ABOUT 20 years ago I set out 11,000 trees around a farmstead under the supervision of the Forestry Department at Indian Head. It was in an irrigated district of Alberta, but the land I planted these trees on could not be irrigated. These trees were a success from the start. In fact, so much so I flattered myself they were the inspiration for other plantings in the district. In a few short years they added much to the appearance of the farmstead and on dry hot days it was like a different world when among them.

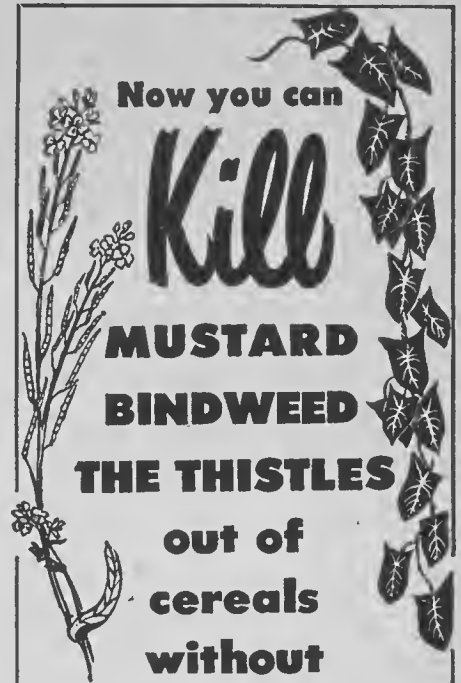
In the early 30's I set out a collection of fruit seedlings from The Country Guide and while I left the district soon after and did not see this plantation again until two years ago, I understand they are still bearing fruit. While I cannot say to what extent the present occupants enjoy my efforts of years ago, I could not help but feel a sense of satisfaction when I drove in and saw the nice shady driveway of caragana well above the car, knowing I had been responsible for it.

In 1944 I again set out a plantation in this district of 7,500 trees for a half mile along the road and up both sides of the driveway. While this planting took a terrific beating in 1945 from two 100 per cent hail storms within 30 days, it is by no means a failure. In fact, I feel safe in saying it has added hundreds of dollars to the value of the property.

When you drive in the summertime through some of the dry sections of Alberta and see the number of nice shelterbelts that are now looming up, you cannot help but feel that those responsible for pioneering this work should be further encouraged. In fact, I sometimes think the government might well embark on a scheme to further this work, making it worthwhile to plant trees either through the Prairie Farm Assistance or otherwise bonus farmers to set out shelterbelts. There are lots of waterholes here in the fields in the spring that cannot be worked because they are too wet for tractors and tillers until too late for a crop. If these were set out to laurel willow and fenced, they would soon provide wood and poles as well as a shelter for stock, and create humidity to offset some of the dry hot winds.—HARVEY HANSON, Balzac, Alberta.



These two pictures provide documentary evidence of the value of a windbreak.



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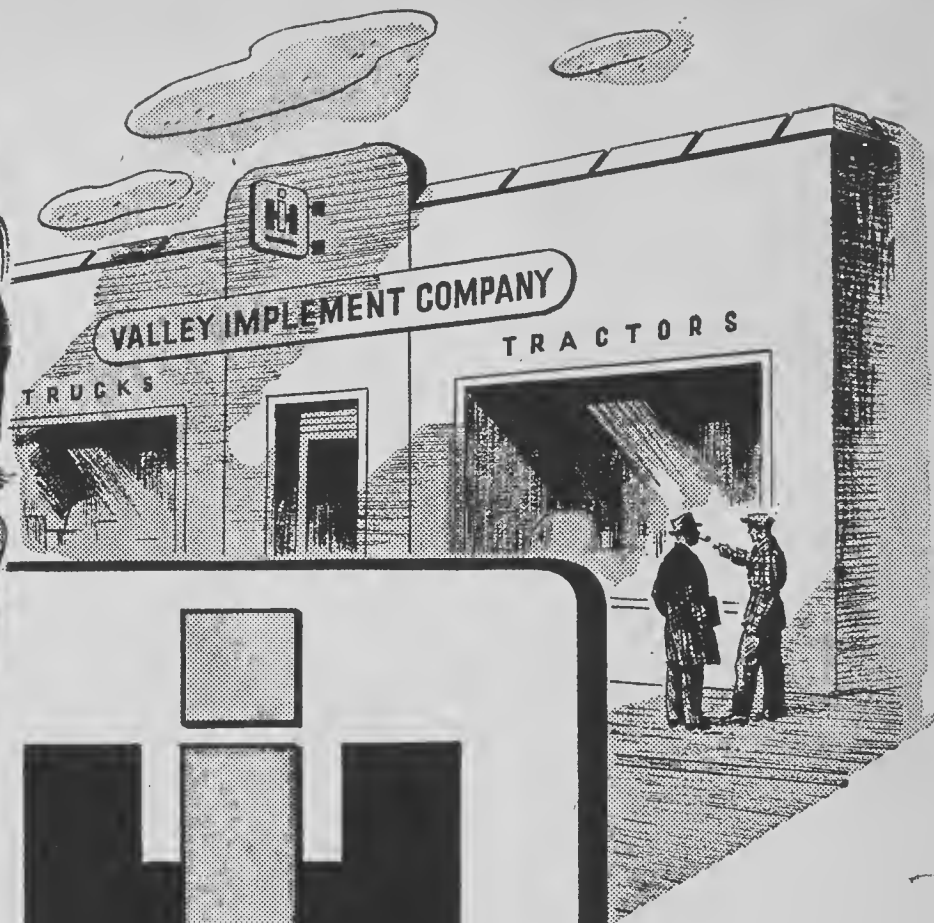
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- 1 Spray Bindweed while it is growing strongly.
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- 3 Spray all Thistles before they bloom. If they have already bloomed cut them down and spray shoots when a foot high. Warning: To control perennial thistles, especially Canada thistle, repeat sprayings are necessary. Hit 'em again a month later, and keep hitting them until they're gone.

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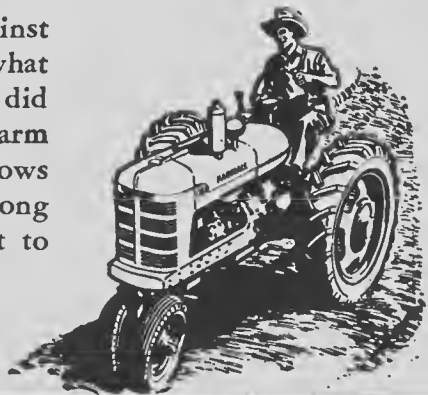
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A MAN IN YOUR COMMUNITY *on whom you can depend*

HE IS a business man, although you may not find him at his desk. More likely he will be demonstrating a new machine, or servicing somebody's tractor, or discussing tillage or harvesting problems with one of your neighbors.

He is a man of great importance to every farmer in the community. He knows farming and farm equipment from the ground up. His main job is to bring land and labor-saving equipment together—and to keep that equipment running smoothly.

He knows what you have been up against throughout the war years and since—and what is expected of him today, as well as he did then. Well aware that the days of farm machinery shortage are not yet over, he knows as well as you that many an implement long past the retirement age has to be put to work again this year.



He has kept abreast of the great waves of change in agriculture. Today his store is headquarters for modern power farming equipment of International Harvester manufacture—the Farmall Tractor and the Farmall system. And his mind is a veritable storehouse of up-to-the-minute information on the many great new things that are coming to help make the family farm a better place on which to work and live.

He is a prosperity builder of the first order. He has contributed much to your community—and he will contribute much more. No matter how well you know him now, *you will surely like to know your International Harvester Dealer better.*

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HORTICULTURE

Photographed in March, 1947, a large canker extends three inches down from the knife blade (left). Right is a young tree showing pruning cuts where blighted branches were removed. Both pictures show characteristic, persistent leaves on blighted spots.

Univ. Alta. photos.

Fire Blight Control in Apple Trees

By ROBERT J. HILTON

This destructive disease works quickly when it strikes and requires prompt, efficient attention

THE bacterial fruit tree disease called "fire blight" has been known—and dreaded—for many decades, and in most areas throughout North America where apple and pear trees are grown. A home owner watching for the first time its ravages and rapid spread, often fails to appreciate both the nature of the disease and the difficulty of control. In the language of the teen-ager, it is a "killer diller," and to date there has appeared no easy means of prevention and no royal road to cure.

In the Edmonton area of Alberta, where fire blight reached epidemic proportions during the past growing season, daily enquiries were received:

"My Siberian crab trees seem to be blighted—the blossom clusters are wilting, and new shoots are dying."

"The Alexander tree in our backyard is nearly dead. Growth was normal until a few days ago. 'Goosey-looking' black cankers have appeared at the crotches. Will it kill our other trees?"

"Leaves of some of our apple trees are wilting, then suddenly turning brown, as though a fire had killed them. We have cut away the dead branches, but the disease seems to spread—will it attack our Columbia and Garnet crabs?"

In the University of Alberta orchards, and throughout the city of Edmonton, the virulence of the disease continued almost unabated until growth ceased in the fall. What caused such an outbreak in 1946? The history of the disease—it rejoices in the scientific denomination of *Bacillus amylovorus*—shows that the trouble has been of sporadic nature, seldom causing damage more than two seasons in succession, but breaking forth after a few season's surcease in all its underhanded fury.

conditions most favorable for its rapid development must be known, and duly taken into account.

Briefly, the bacterium that is the responsible organism develops most quickly in reasonably warm weather and during periods when plant growth is lush and rapid. Infection may be established first through the tender, succulent blossom tissue, and thereafter through fresh cuts made when pruning trees, or through the leaf stomata, the "breathing pores" of the leaves. As the disease progresses, more or less distinct cankers are formed at the base of the damaged spur, twig or branch, and from these cankers a sticky sap is exuded that contains thousands of microscopic bacterial spores—each one of which may start a new infection if it is transplanted in any way to a favorable medium. The disease overwinters in these cankers, and the amount of over-wintering depends to some extent on the size of the branches upon which the cankers occur, and the severity of the winter. In general, the smaller the canker, and the colder the winter, the greater chance there is of the bacteria being winter-killed.

Infection is caused by the following agencies: 1, Bees that feed on the rather sweet and sticky sap exuding from cankers, then carry the disease directly to tender blossoms; 2, flies, ants, aphids that may crawl or feed upon the infected sap, and migrate later to healthy tissue; 3, rain and raindrops that may carry the bacteria downwards from a virulent canker, or by splashing, carry infection laterally for several feet to healthy leaves or blossoms; and 4, careless or unthinking pruning methods on the part of the cultivator, for during the growing season the disease is easily carried to healthy tissue on pruning tools.

WHAT can be done about this scourge, this sneaking disease that will not respond to spray or dust, nor to cultural or fertilizing practice? Must we depend solely upon the vagaries of nature, and hope the bad outbreaks don't come too often? Fortunately, other steps can be taken, but they involve an observant eye, and great attention to detail. Heed, then, and do your best:

1. Check trees carefully before any growth starts in the spring, and prune away all branches showing cankers, below the cankers, of course. At this stage, there is no need for tool disinfection, since the bacteria are inactive, and

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KILLS..

GROUNDHOGS

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RATS

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and all farm pests!

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Place a large spoonful well down in the animal's burrow and close it in tightly. Cyanogas will do the rest!

1 lb. Cyanogas A-Dust fills 20 holes.

Sold by leading Drug, Hardware, and Seed Stores... 1 lb. \$1; 5 lbs. \$4.18; 25 lbs. \$15.50; 100 lbs. \$45.00 (Prices in West slightly higher).

Directions on tin.

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occasionally a tree with a canker near the trunk may be saved by carefully carving away all the dead or diseased tissue with a sharp knife. All wounds made at this period should be treated with a disinfectant such as mercuric chloride-mercuric cyanide mixture, or zinc chloride solution.

2. Maintain a sharp look-out for first signs of the active disease, i.e. wilted or "fire-blasted" blossom clusters and leaves, and later, whole shoots so affected. Cut or break these off several inches below the canker-line that will be seen on close examination of the bark at the base of the damaged portion. Disinfect tools after each cut, if you think there is any danger of contamination. For this reason, breaking off the smaller shoots by hand is safer than cutting, since an infection on the hand will not contact healthy tissue, if care is taken.

Keep the trees from growing too vigorously, if the presence of the disease is known or suspected. This is not always a simple matter, but where irrigation is practised, the water supply may be reduced. Also, a "cover-crop" of annual weeds, buckwheat or oats may be grown from mid-July on, and this will take up much of any surplus nitrogen available in the soil. A dressing of phosphorus fertilizer (superphosphate) may tend to correct an unfavorable balance between nitrogen and the minerals, and may promote earlier wood and fruit maturity. The application should not exceed three pounds per tree, and should be spread from the trunk to well beyond the outside branches.

4. A preventive measure is to plant only varieties known to have some resistance to the disease. From data compiled from the University of Alberta orchards during the severe 1946 outbreak, some susceptible apple and crab-apples varieties are: Alexander, Anisette, Atlas, Breakey, Charles, Dr. Bill, Hyslop, Mantet, Mecca, Olga, Osman, Siberian Crab, Sylvia, Transcendant, and Wealthy. Varieties that showed some resistance in 1946 are: Athabaska Rosybloom, Charlamoff, Columbia, Dolgo, Duchess, Garnet, Haralson, Hibernial, Manton, Patten, Greening, Piotosh, Redant, Rosilda, and Trail.

THE disinfectants that have been mentioned may be made up as follows: Mercuric chloride-mercuric cyanide solution: Mercuric chloride, 1 oz.; mercuric cyanide, 1 oz.; glycerine (if available), 3 gallons; water, 1 gallon. (Glycerine increases the "lasting" power of the disinfectant, but is not essential.)

Zinc chloride solution: Hot water, 2 pints; hydrochloric acid (concentrated), 3 oz.; zinc chloride (dry), 9 lbs.; denatured alcohol, 7 pints. Add the acid to the hot water and stir, then to this

add the zinc chloride. When this mixture is cool, add the denatured alcohol and store the solution in tightly stoppered glass bottles. This may be applied with a paint brush, and in most cases the dead bark of cankers need not be removed before treatment.

These two solutions are satisfactory either for disinfecting wood tissue or cutting tools, but they are very poisonous if taken internally, and they are also corrosive to metals, so earthenware, glass or wooden containers must be used.

If care and foresight are used in fighting fire blight, and if your next-door neighbor can be persuaded to take as good care of his diseased tree as you are expected to do with yours, then a reasonable degree of control of this scourge will be effected.

(Note: Dr. Hilton is Associate Professor of Horticulture at the University of Alberta, Edmonton.)

Permanent Plant Labels

CHARLES W. ELLIOT, Balcarres, Saskatchewan, sends us the following regarding permanent garden labels. He has found that writing with pencil on galvanized sheeting will stay legible for a number of years, but his experience is that the ink recommended is far superior. He has used it for the last 10 or 12 years, and the oldest labels "are as good as the day they were prepared."

The ink used by Mr. Elliot is prepared from one-half ounce of hydrochloric acid and one-half ounce of butter of antimony, mixed together and stored in a glass bottle. It is poisonous and acid, and should be used only with a glass, wood or quill pen. Avoid using heat or sunlight to dry the ink, since either will cause the label printing to fade or lose its lustre. Use galvanized iron free from solder acid and other defects. Cut to desired size. The writing will not corrode or rust, and appears as black paint, which can be in contact with the earth without injury. Care should be taken to avoid any fumes.

Mr. Elliot also supplies three additional recipes procured from reliable sources, though he has not used them himself. The first is one-quarter ounce of chlorate of platinum dissolved in one pint of soft water, and preserved in glass. Use a clean quill on a zinc label.

The second is Verdiris and sal ammoniac, one-half ounce each, mixed thoroughly with one-half ounce levigated lamp-black, and one-quarter pint vinegar. Use as above, on either zinc, iron or steel.

The third is one ounce of blue vitriol powder mixed with one-half ounce of powdered sal ammoniac and dissolved in one-quarter pint of vinegar. Preserve and use, as above, on iron, tin or steel.



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The rose garden at the Dominion Experimental Station, Beaverlodge, Alta., 400 miles northwest of Edmonton.

THE STEEL WORKER THE NICKEL WORKER depend on each other



Charging one of the grinding mills with steel rods in the Nickel plant at Copper Cliff

IN ONE YEAR more than 10,000 tons of steel rods were worn out in grinding the hard, abrasive ore from the Canadian Nickel mines. More than 13,000 tons of structural steel were used for repair work. The Canadian Nickel industry also used 1000 tons of steel pipe, 5000 tons of iron and steel castings, 775 tons of roll shells, 150 tons of welding rods.

And in the massive equipment used in steel production, Nickel is used to give strength and toughness to metal parts,

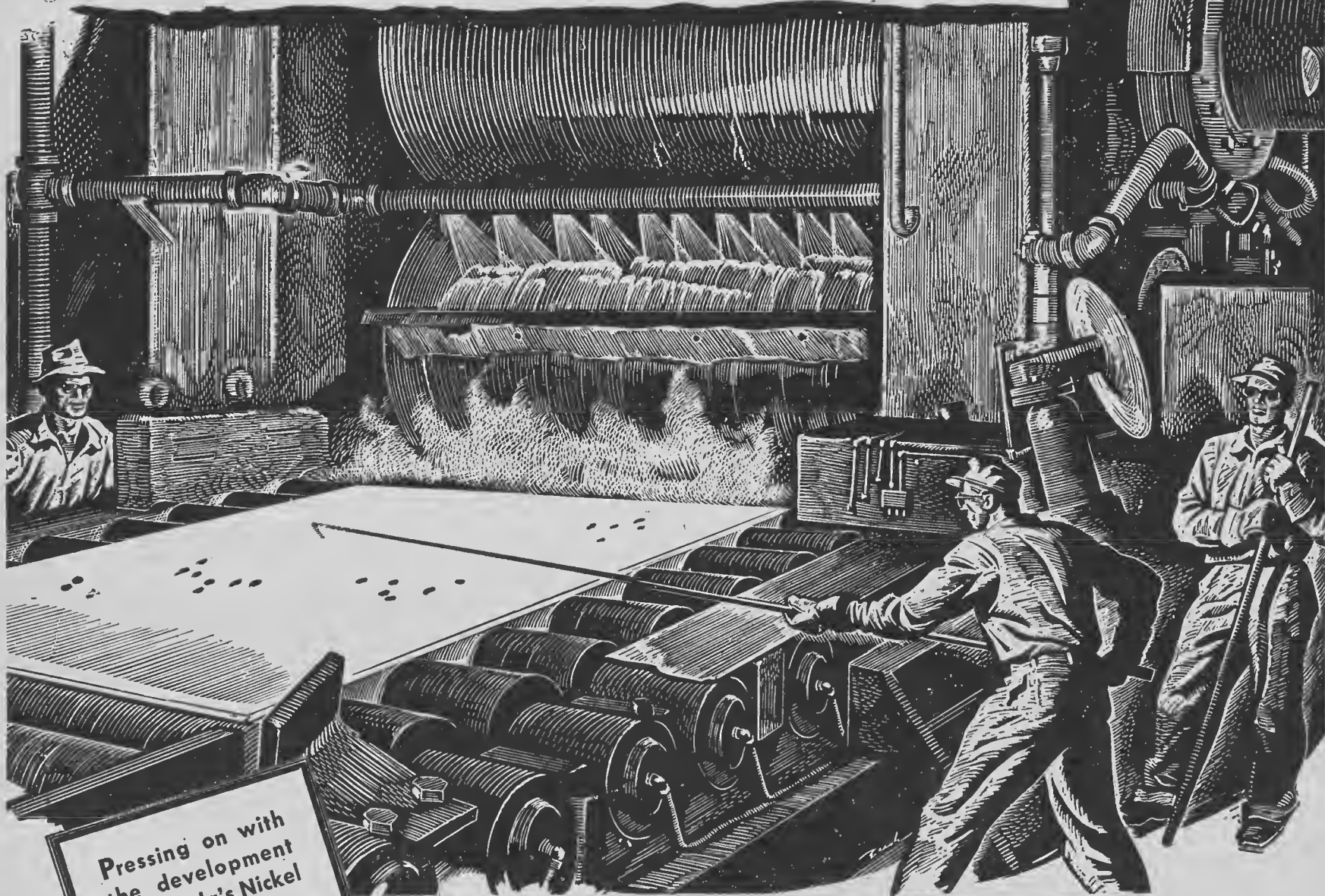
and to give them the ability to stand up under intense heat. About six tons of Nickel, for instance, went into the rolls, gears, shafts and other parts of the plate mill illustrated here.

So the Canadian Nickel worker produces Nickel for the steel industry; the steel worker produces the steel the Canadian Nickel industry must have. Each and every industry in this country creates employment in other industries. *No matter how we earn a living, we are all one family, each depending on the others.*



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Four-high reversing plate mill in a Canadian steel plant.

THE INTERNATIONAL NICKEL COMPANY OF CANADA, LIMITED, 25 KING STREET W., TORONTO

THIS COMMUNITY HAS A HEART

Continued from page 9

offered both in cash and kind. One lady gave three weeks' board to a carpenter, another, two geese. One farmer donated a steer, another ten days' labor, and a third 20 bushels of oats. Cash contributions ranged from \$5 to \$100.

Finally, in the summer of 1933, spurred to good deeds by the minister, and I fancy also by Miss Gundeson (though she refused to admit it), the good folk of the community put up the dormitory, doing a great deal of the work themselves. The unmarried joined with the married folk, the men doing the heavier work and the ladies serving afternoon lunches and later assisting with lathing and papering.

When the building was completed, it carried a debt of around \$2,000, and Miss Gundeson told me that there still remained about \$300 of this to pay off. The only grants received were, in her words, from individuals: "Some of them were very modest, such as the first matron, who scrubbed, varnished, kept accounts and bought supplies, supervised, cooked considerably, mothered her big family—and paid for her own board. Or the treasurer of the board, who, year in and year out, plows the garden, checks the fire escapes, worries about the fuel, gets the Christmas tree; and all this without a penny from the money bag."

THE furnishings of the dormitory are somewhat less than elaborate, but I was assured that the meals are good. Cost to the pupils, according to an application form which I have, is \$2 as an administration fee, \$13 per month to cover room rent and the student's share of the grocery bill, in addition to a share of any deficit (or return of overcharge) reckoned at the end of each two-months period in October, December, February and April.

Rules in the dormitory are fairly strict. Smoking, dancing and card playing are prohibited on the dormitory premises. Rooms are inspected by the matron daily. Loitering in the dormitory or parking on the dormitory premises is taboo. Non-resident students must leave by seven p.m. Property damage must be paid for by the students, and visitors are allowed only on Friday evenings, except by special permission. Three students are elected each two months to act as a house committee, whose decisions are endorsed by the matron. Morning devotions are held, at which students are expected to be present. During the winter months, the rising bell rings at 7.30 and lights are out at 11.30 p.m. Resident students may

not leave the dormitory to attend dances without written permission from their parents to the school board.

In 1935, high school classes were moved from the basement of the church to the new dormitory, but in 1938, after Alberta introduced enlarged districts, a new school was erected, which now accommodates the higher grades and has brought several other advantages. It has lowered the cost per student day, induced a higher average number of days in attendance per pupils, increased the number of pupils, and has done away with the necessity of giving short-year courses. Now, too, a van is operated by the local school board. It provides transportation for high school students as well as public school pupils from two districts.

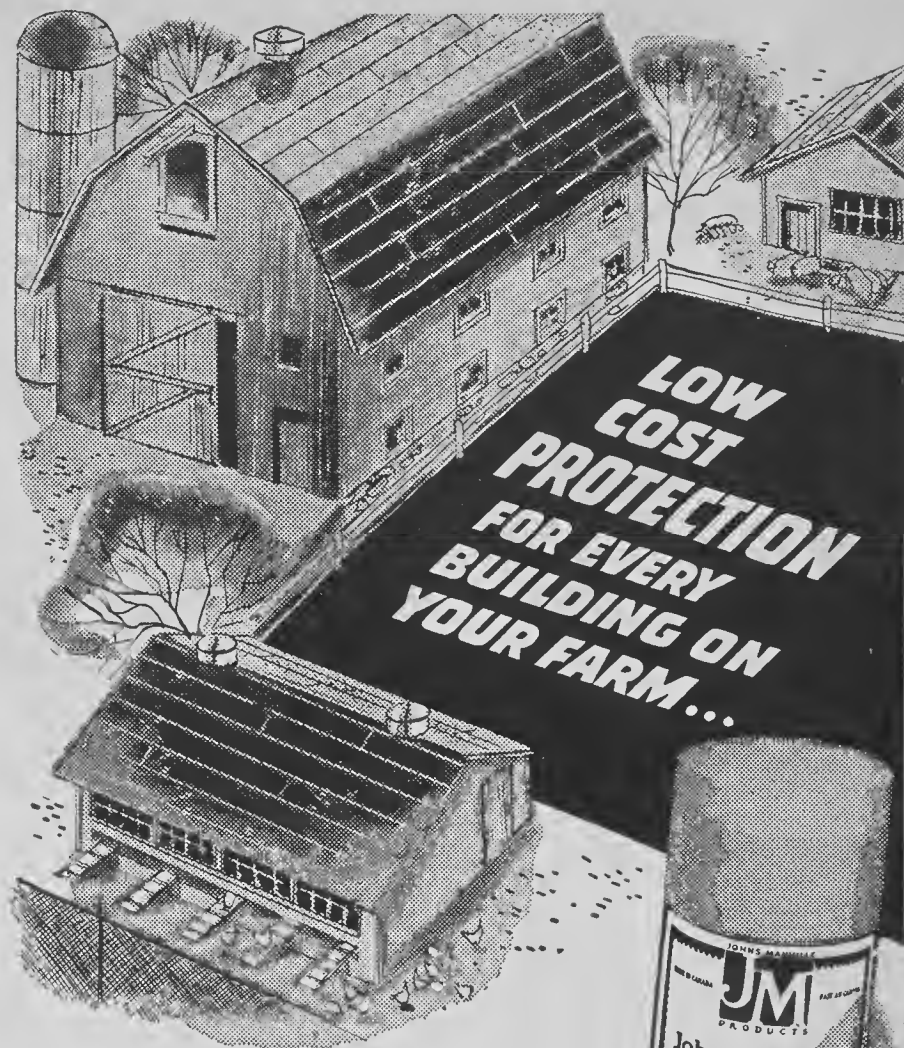
Along with the public and high school courses in the dormitory, the school has sponsored a baby clinic, for which a health nurse is provided partly by provincial and partly by school district funds.

MISS Gundeson, as principal, was very enthusiastic about the fine co-operation which the school was receiving from the Inspector, Findlay Barnes. General academic courses are taught, and an effort is made to see that every student who wants to get through high school in three years is able to do so.

Subjects are taught as far as possible to accommodate the greatest number of students. Two of the four teachers can teach high school courses, and between them can offer 94 of the 100 credits required for a high school diploma. Home economics is included and some equipment has been provided by the School Division, but money is raised locally in various ways, and the current effort when I visited Dickson was to procure dining room furniture for the dormitory.

That the high school and dormitory ventures have been successful seems evident from the fact that students have averaged as high as 88 per cent on examinations, and a high percentage of them pass. The dormitory accommodates 21 girls, a few of whom earn a portion of their board money by doing dishes and other suitable work.

As I drove away from the Dickson community late that evening, it seemed to me that, as the people there have cause to be grateful to the Church, which has offered them a rallying point, and to the leaders who have developed among them, so western Canada should be grateful for the Dickson community. As a people, they have shown that it is possible, in spite of hardship and difficulties, to make steady progress, to be contented, to live without factional differences and to pioneer, not merely in clearing of brush and the breaking of land, but in the development of a strong, steady and progressive community spirit.



J-M Asbestos ROLL ROOFING

• Experts have shown that comfortable, dry, draft-free barns *actually increase* milk and egg production! In fact, your buildings are the basis of your farm profits. That's why it is so important to keep your barns in good repair—protect them from fire, weather and wear! You can get this triple protection for every building on your farm by roofing with economical, Johns-Manville Asbestos Roll Roofing.

J-M Asbestos Roll Roofing is made on a heavy base felt of mineral asbestos fibres which will not burn, rot or decay. It is impregnated and coated with a special waterproofing asphalt—provides a lasting, serviceable roofing material for barns, poultry houses, implement sheds and dairies. J-M Roll Roofing is available in two types. Double Coated Smooth Rolls, where colour is not essential, and attractive Flexstone Mineral Surfaced, in a choice of Tile Red, Spruce Green and Standard Green. For full details see your nearest J-M Dealer today.

B-455



The well kept garden on the Wapella farm of the lady who signs herself "Barnyard Rose" in the article on page 13. All the farmers and farm wives who replied to our question "Does a windbreak pay?" gave as an affirmative reason the beneficial effect of trees in collecting moisture.



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DURABESTOS ROOF SHINGLES *** CEDARGRAIN ASBESTOS SIDING SHINGLES *** ROCK WOOL INSULATION *** FLEXSTONE ASPHALT SHINGLES *** ASBESTOS FLEXBOARD *** ASBESTOS ROLL ROOFING



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COSTLY CHICK LOSSES BY
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TWEDDLE CHICK HATCHERIES Limited
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Gtd. 100% Live Arr., Pullets 96% Acc.

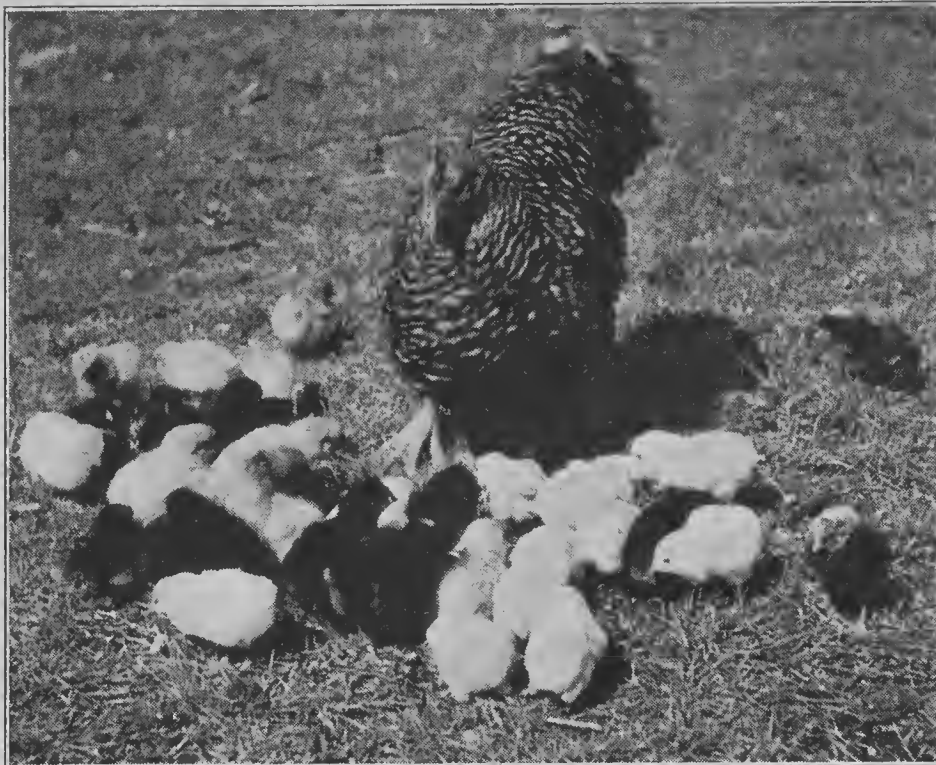
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Flock proven Bradcliff Shell Producer 93% calcium carbonate, makes harder, finer textured egg shells. Supplies the vital mineral-feed balance, necessary for higher hatchability, better health, rapid growth!

PRODUCERS OF SOLUBLE AND INSOLUBLE GRITS

BRADCLIFF
POULTRY PRODUCTS
TORONTO



[Nat. Film Board photo.]

Biddy has good cause to be proud of this lot, even if the hatcheries can turn them out faster.

What Do Your Eggs Cost?

WITH the gradual increase in the cost of poultry feeds and with fairly steady egg prices, the poultry raiser must study his costs of production with greater care than ever before. Profits can be made only if there is a margin between the cost of producing a dozen eggs and the selling price of that dozen eggs on the market.

Very few egg producers know what their eggs cost, the reason being that cost records are not kept. It is not necessary to devise an elaborate system of bookkeeping, but it is essential that an inventory be taken of the stock and equipment. The amount and value of the feed supplied to the flock should be recorded and a careful check kept on the number of eggs laid, the prices of the products sold and a valuation of eggs and poultry consumed by the family.

Such a set of simple records should provide the information necessary to decide whether or not the flock has been profitable. An analysis of the figures should give the flock owner a clue as to where improvements in management should be made. If the flock is not paying its way with proper feed and careful management, it would be well to seriously consider getting out of the business. Feed grains are too valuable to throw away in unprofitable enterprises. Before going out of chicken raising, however, make sure that the fault doesn't lie with you as an operator.

To Meet Higher Feed Costs

THERE are three ways by which the increase in the cost of wheat and other feeds can be met. The first is to obtain more eggs per hen; the second is to handle the eggs in such a way that more of them will grade A; and the third is to concentrate on producing the maximum number of eggs from September 1 to January 31 when egg prices are higher than at any other time of the year.

Prairie farmers may feel, with some justification, that the production of eggs does not provide for as attractive returns as the growing of grain to be sold directly to the elevator. However, we should be concerned with the long-range view, for if we lose the British market by failing to produce enough eggs at the time of year when the Britisher wants them, then we will have to revert to prewar production standards and grow only enough to feed

our own people. By that time it is quite possible that wheat will also be difficult to market. It is easier to lose the British market than it will be to gain it back again.

Eat More Turkey

IT is always of interest to know what poultry people of other parts of the world are doing. In the United States turkey production last year far exceeded domestic needs. During the war years the number of turkeys increased by leaps and bounds. Not only did the numbers increase but the average weight per bird increased as well. The turkey growers were faced with the problem of surplus production.

Rather than lower production, the turkey industry set out to organize a campaign to get the public to eat more turkey. A sum of \$10,000 was thought to be adequate to launch a publicity program. This fund is being raised by deducting one cent per turkey marketed, from the returns of those who volunteer to support the campaign. So far \$40,000 has been raised. The money is handled by the National Turkey Federation. The publicity material consists of pamphlets, recipes, slides, films, and radio. If this plan produces results the Federation is considering the setting up of a permanent program for raising funds to support the industry.

Maintaining Egg Quality

THE matter of egg quality has been discussed in these columns on former occasions, but for the sake of keeping up the good reputation of our eggs, a few of these points will bear repeating. One of these is necessity for clean eggs.

For reasonably clean eggs plenty of nest boxes are needed. These nest-boxes should be kept well supplied with clean nest material such as hay, straw or shavings. Keep the chicken house floors clean and dropping boards or pit cleaned regularly, or else have it screened in with chicken wire so that the hens cannot walk over the pile of droppings. Above all keep the hens confined to the henhouse on wet rainy days and until the barnyard dries up, and finally, collect the eggs at least twice a day. Frequent collections will do much to reduce the number of eggs broken in the nest.

(Ed. Note: In the March issue of The Country Guide, the photograph in this department showed Professor Rae drawing a blood sample for the tube agglutination test. Unfortunately, the word "tube" was omitted. Sorry.)

R.O.P. SIRED

W. Leghorns, B. Rocks, R. I. Reds

APPROVED

New Hampshire and
Leghorn-Hamps. crosses

Order Chicks Early

Write for our Annual Catalog and
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**ORDER YOUR MAY NOW CHICKS**

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"R.O.P. SIRED" CHICKS

	Net Sexed		Pullets	
	100	50	100	50
W. Leghorns	15.75	8.35	31.50	16.25
B. Rocks	16.75	8.85	29.00	15.00

APPROVED CHICKS

	Net Sexed		Pullets	
	100	50	100	50
W. Leghorns	14.25	7.60	29.00	15.00
B. Rocks	15.25	8.10	26.00	13.50
N. Hamps.	15.25	8.10	26.00	13.50
L. Sussex	18.50	9.75	29.50	15.25

PRICES ON COCKEREL CHICKS

	100	50
Heavy Breeds	10.00	5.50
W. Leghorns	3.00	2.00

A small deposit will book your order. 96% accuracy on pullet chicks and satisfaction guaranteed.

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TAYLOR-MADE CHICKS

IMMEDIATE DELIVERY

Heavy Breed Cockerels, \$10 per 100; Minorcas, \$17.75; Wyandottes, White Rocks, \$17.75; Buff Orpingtons, Sussex, \$18.75; Barred Rocks, Hampshire, \$16.75; Leghorns, \$15.75. xxx Profit Approved Chicks 100% Alive. Golden-West Chick Oil Brooders, \$20.75.

ALEX. TAYLOR HATCHERY

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BIG MONEY

awaits early Fall production. Order chicks now. Make sure of Top profits from every dollar and every hour you invest in chicken raising this year. "Well begun is half done" and you begin right when you start with Top Notch chicks—and start early. Top Notch breeders are Government Approved, pullorum tested and of proven production quality. Live delivery of husky, healthy birds is guaranteed—all the best breeds are ready for prompt shipment on the date you specify . . . day old or older, sexed or non-sexed. Heavy producers of meat and eggs, these chicks cut all risks to a minimum. They grow fast and produce early. Write for Top Notch catalogue and reduced prices for May. Also started chicks and older pullets for prompt delivery.

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For this week and next

Barred Rocks, New Hampshire, New Hampshire x Barred Rocks, Light Sussex x Barred Rocks, New Hampshire x Light Sussex, Light Sussex x New Hampshire, Barred Rock x New Hampshire \$4.95, assorted heavies \$4.45. This advertisement and 10% deposit must accompany your order to receive these special prices.

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FREE—16-Page Catalog in Color

SOUBRY'S HATCHERY

551 ARCHIBALD ST., ST. BONIFACE, MAN.

WHY KEEP A BULL?

Continued from page 8

probably until February, since they had not proven to be as sure breeders as the others. Not too much is known about the heredity of serum quality, but it is known that the serum from some bulls can be kept longer than that from others, and I was told that some samples had been kept at the Ontario Veterinary College for as long as 12 days, and tested out well. The Association follows no elaborate system of testing after the technician gets used to an individual sire. A microscopic examination is made of the semen when taken, and again after dilution and cooling.

It was interesting to learn that this enterprising and forward-looking Association really started at a farm forum meeting. The real father and advisor of the association is W. P. (Bill) Watson, Associate Director of Livestock, Ontario Department of Agriculture. Some meetings, of course, were held, but it was fairly easy to get an A. I. centre started, since York County has a large number of Holstein breeders and a great many dairymen catering to the Toronto milk market.

In May of last year, six members of the Association made a special trip to Cornell University, New York, where a very large A. I. centre, using 60 or more bulls, has been established to serve the New York milk shed with what is reputed to be the most modern

fee per cow is less than the price of a "bobbed" calf, and that the \$35 loan to the Association is less than the average cost of a bull calf of ordinary breeding. The Association is proud of the fact that calves coming from the club's bulls are in keen demand and are of "wonderful type." They point out that in many herds the rate of conception has been higher with artificial insemination. Three advantages claimed by the Association are fundamental to the whole purpose and practice of artificial insemination: "1, Why purchase a bull every two years? What will you pay for bulls in the next ten years?; 2, most farmers cannot afford to buy bulls of the type and production qualifications of these Association bulls . . . ; and 3, these bulls of the one breeding will leave you uniform type heifers for herd improvement."—H.S.F.

CANADA'S BIGGEST A. I. CENTRE

Continued from page 8

part of the essential equipment for an A. I. centre is adequate refrigeration, since the semen must be stored at temperatures between 38 to 45 degrees Fahr. Before storage, however, it is diluted or mixed with at least three times its volume with what is called yolk-buffer, which is a combination of fresh egg yolk mixed in equal quantities with a solution made by dissolving a buffer capsule containing sodium and potassium phosphate, in 50 c.c. of redistilled water. After this solution has been boiled gently to sterilize it, it is mixed with the egg yolk and the mixture added to the semen and then stored immediately. Effective for impregnation up to about 100 hours, the buffered semen can be used efficiently in outlying districts when properly packed and handled.

The five service areas were not all started at once. Surrey was the first to begin, and the first calf was a Jersey heifer, born November 26, 1945. The first calf for the Maple Ridge area was born just a few days before my visit to the Association late in July last year. Each area had to have 1,700 cows signed up before a technician could be put into the district and there was talk last summer of a sixth area, starting up in the Delta. A separate association, incidentally, operates out of Chilliwack, with about 2,000 cows and two technicians.

In the Lower Fraser Valley Association, an initial fee of \$5 is charged, plus a yearly membership of \$1 and a service fee of \$3 per cow, including three services, if necessary. In addition to the land and the investment to be made in buildings, about \$1,000 is invested in equipment for the laboratory and semen collection. The Manager and seven other persons are employed by the Association, and my information was that Association members had been well satisfied with the way the proposition has worked out.

Itinerant Paint Spray Outfits

SIX mobile power spray outfits will get under way in Saskatchewan this summer under the direction of the Provincial Department of Reconstruction. The units will be prepared to paint farms, schools, municipal and Government buildings, and it is estimated that 85,000 farmsteads have not been painted in the last ten years, and that 500 spray painting outfits would be required to work nearly 10 years in order to catch up on painting needed to be done in Saskatchewan.

The Department estimates it will cost from \$275 to \$500 to completely spray a farmstead, including house, barns and granaries.



FOR 1947


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R.O.P. Sired White Leghorns, New Hampshires and R.I. Reds. Hatchery Approved New Hampshires, Light Sussex, Australorps, Austra-White Cross and Leghorn-Hampshire Cross.

Price list on request.

Mammoth Bronze Turkey Poults, \$75.00 per 100.

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The highest government grade of commercial chick obtainable.

35 years at your service.

Interesting Folder and Prices on request.

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Wheat City Approved Chicks

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Hear Songs of the Buckaroos, Thursday nights, 7:30 and Old Time Music, Friday nights, 9:30. M.S.T., over CFCN, Calgary, 1010 kc's.

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catch early markets with a quick turnover of cockerels. We have some started heavy breeds available. Good profits with a minimum of time, feed and labor. Also chicks, some breeds, Australorps, New Hampshires, L.S.xN. Indications point to a good poultry year, get the right chicks now.

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MOTOR REBUILDING—CRANKSHAFT GRINDING

Bearings reabbitted. General Machine Work. Cylinder Reconditioning.



Willfred Keffer, president, Maple Artificial Breeding Association (left) and George C. Jackson, York County Holstein breeder.

equipment for the purpose to be found anywhere. Along with this group went the Secretary, J. M. McDonald, who is also Secretary of the Municipality.

The Constitution of the Maple Artificial Breeding Association does not restrict membership to breeders of purebred cattle. Membership fee is \$5, and each member on admission lends to the Association (without any guarantee that it will be paid back) the sum of \$35, to be used, with other such loans, in financing the Association. Should profit be made, loans will be refunded before service fees are reduced or dividends paid. No member may have more than one vote, and only the Secretary receives compensation for services. Directors may be paid traveling or out-of-pocket expenses. Each member on joining specifies the minimum number of animals he will have serviced through the Association in that year and must declare in advance, each year, the number of cows he will have bred. Selection of sires must be by Committee, consisting of two or more farmers named by the Board of Directors, in addition to the Agricultural Representative, or other person named by the Board. The service fee is \$5 per cow, with \$1 additional for the fourth and fifth services if necessary.

The Association has been aggressive and has published an attractive folder, illustrating each sire, outlining its breeding, and emphasizing the advantages of artificial insemination. It is urged, for example, that the \$5 service

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Hambley Spec.	Mating	Approved			Approved
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15.25	8.10	4.30	N. Hamps.	14.25	7.60 4.05
26.00	13.50	7.00	N.H. Pull.	24.00	12.50 6.50
11.00	6.00	3.25	N.H. Ckls.	10.00	5.50 3.00

R.O.P. Sired				Approved
14.25	7.60	4.05	W. Leg.	13.25 7.10 3.80
29.00	15.00	7.75	W.L. Pull.	27.00 14.00 7.25
4.00	2.50	1.50	W.L. Ckls.	3.00 2.00 1.00
15.25	8.10	4.30	B. Rocks	14.25 7.60 4.05
26.00	13.50	7.00	B.R. Pull.	24.00 12.50 6.50
11.00	6.00	3.25	B.R. Ckls.	10.00 5.50 3.00
15.25	8.10	4.30	R.I. Red	14.25 7.60 4.05
26.00	13.50	7.00	R.I.R. Pull.	24.00 12.50 6.50
11.00	6.00	3.25	R.I.R. Ckls.	10.00 5.50 3.00

F.O.B. CALGARY and EDMONTON

Hambley Spec.	Mating	Approved			Approved
16.00	8.50	4.25	N. Hamps.	15.00	8.00 4.00
26.00	13.50	6.75	N.H. Pull.	24.00	12.50 6.50
10.00	5.50	3.00	N.H. Ckls.	9.00	5.00 3.00

R.O.P. Sired					
14.00	7.50	3.75	W. Leg.		
28.00	14.50	7.25	W.L. Pull.		
3.00	2.00	1.00	W.L. Ckls.		
16.00	8.50	4.25	B. Rocks		
26.00	13.50	6.75	B.R. Pull.		
11.00	6.00	3.25	B.R. Ckls.		

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Hambley Spec.	Mating	Approved			Approved
16.00	8.50	4.25	N. Hamps.	14.00	7.50 3.75
28.00	14.50	7.25	N.H. Pull.	26.00	13.50 6.75
10.00	5.50	2.75	N.H. Ckls.	8.00	4.50 2.75

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This ad is addressed to a man not over age 55 who is concerned about his future security and interested in getting a business of his own. He may be too old for heavy work. Perhaps his income is uncertain or not enough to meet present-day demands. He may be discouraged, but if he has good references and a car, there is a possibility of him qualifying for better than average earnings. He should forward full personal history to the advertiser, Box 189, The Country Guide, Winnipeg.

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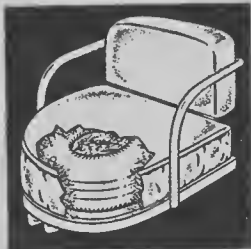


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Cut-away view

Nu-Mat-ik is sold either with or without the popular Flash-O-Hydraulic Ride Easy, which checks rebound (see picture above). If you already have a Ride Easy (or any similar snubber), then get only the Nu-Mat-ik Tractor Seat. Either a Nu-Mat-ik or a Ride Easy greatly reduces fatigue... together they make your tractor ride like a Pullman. Low cost, too.

Full particulars, prices, how to buy, etc., without obligation. A postcard will do. Write

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Please send me FREE booklet about deafness and what can be done to overcome it.

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[Guide photo.]

Grand Coulee Dam in the middle distance, looking toward the Canadian boundary from the southern approach to the Columbia River Valley.

Columbia Basin Power--Irrigation Project

Canada will supply sixty per cent of the water for the world's greatest single water power project

WHAT has been described as one of the greatest engineering achievements in the world lies not far south of the British Columbia-Washington border, along the Columbia River. It is the Grand Coulee Dam, the most important unit in what is known as the Columbia Basin Power and Irrigation Project, under development by the Bureau of Reclamation of the United States Department of the Interior. It is estimated that the entire Basin project will require 40 years for completion, and will cost \$394 million. Grand Coulee Dam alone, which was actually begun in 1935, was still not completed in 1946 when visited by a representative of The Country Guide.

The huge structure is equal to the height of a 20-storey building, seven storeys below the water and 13 above. Its top is 30 feet wide, its length 4,173 feet, and its width at the base 500 feet. Thirty-seven million cubic yards of excavation were required. It covers an area of 35 acres on bed rock and used 10,551,889 cubic yards of concrete. It weighs 22 million tons.

These figures are impressive, but what is ultimately of more importance is that it makes possible a huge storage reservoir in the Columbia River Valley above the dam, extending 151 miles as far as the Canadian boundary. This reservoir is 128 square miles in area and will store ten million acre-feet of water. In case you do not know how much an acre-foot of water is, this huge storage dam will hold enough to provide 25,000 gallons of water for each of the 140 million people in the United States. It would provide enough water for the entire City of New York for a period of ten years. At its average annual rate of flow, it would require two months for the Columbia River to fill the reservoir.

When fully equipped, the power plant at Grand Coulee will be by far the largest in existence—over 2 1/2 times as large as the Muscle Shoal Dam, almost twice the size of Boulder Dam, and equal to all of the Niagara Falls plants combined. It will have a horse-power rating of 2,700,000, which compares with a rating of 1,835,000 for Boulder Dam. It will contain nine huge generators, each with 105,000 kilowatt capacity and capable of illuminating a city like Chicago. These huge generators will each be driven by a 150,000 horsepower turbine, and will be as tall as a nine-storey building. To transport a single generator to Grand Coulee required 70 railway cars. The rotor for one generator is 31 feet in diameter and weighs more than the world's largest railway locomotive.

The power plant at Grand Coulee will be not only the largest power plant in the world, but the accompanying irrigation project will be the largest in the United States, and will irrigate

1,200,000 acres, supplying 3.25 acre-feet or more per year, which is the equivalent of 39 to 42 inches of rainfall. The water actually used for irrigation will come from a balance reservoir in the Grand Coulee itself, which will store 1,150,000 acre-feet of water, and which will be close to 660 feet above the low water level of the Columbia River. Grand Coulee Dam itself will raise the water to about 355 feet above the low water level, and the remaining distance of close to 300 feet, will require elevation by 12 enormous pumps, each operated by a 65,000 horsepower motor, and forcing 1,600 cubic feet of water per second through pipes 13 feet in diameter, along a canal nearly two miles long, to the balancing reservoir in Grand Coulee. This balancing reservoir will be 27 miles long and from two to five miles wide, with a dam at either end. From the lower end, a ten-mile long canal will extend southward, then divide and sub-divide until irrigation water is supplied to each of the 1,200,000 acres ultimately to be brought under irrigation.

IF the Grand Coulee Dam is a wonderful engineering development, the geological formation of the area and the natural setting for such a project are no less wonderful. Canadians have more than a curious interest in this tremendous project, owing primarily to the fact that the Columbia River takes its rise in British Columbia at Canal Flat, which is about two-thirds of the way from Golden to Cranbrook, and about the same distance north of the International Boundary as Swift Current in Saskatchewan and Vulcan in Alberta. The River flows nearly 200 miles north in British Columbia between the Rocky and the Selkirk Mountain ranges; then it turns and flows southward, forming the big bend from which the Big Bend Highway is named. Then entering the State of Washington, it flows for 151 miles to the site of the Grand Coulee Dam, supplying 37 per cent of the flow at the Dam.

Before reaching Grand Coulee, however, the Columbia is joined by the Kootenay, which rises about 75 miles north of where the Columbia begins, but flows southward instead of northward, for 180 miles, passing through Montana and Idaho and making, in all, a 167-mile loop into the United States before returning into British Columbia through Kootenay Lake, and emptying into the Columbia 30 miles north of the International Border. The Clark Fork River also touches Canada briefly, so that in all, about 60 per cent of the flow at Grand Coulee Dam has its origin in Canada, developing from 39,000 square miles of territory. The total drainage basin of the Columbia River involves 259,000 square miles, but only

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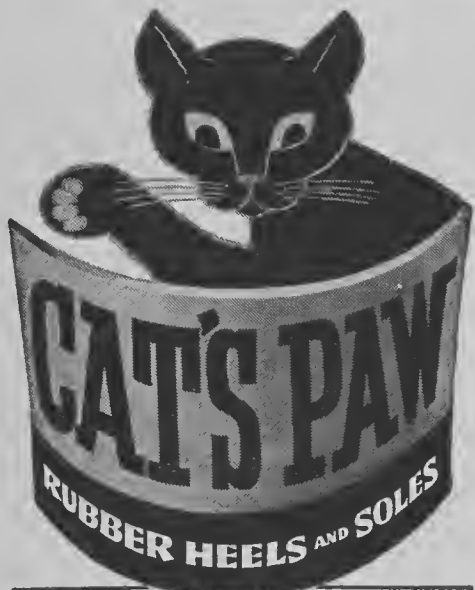
If you have to get up three or more times a night, your rest is broken and it's no wonder if you feel old and run-down before your time. So if you Get Up Nights or suffer from Bladder Weakness, Painful Passages, Backache, Leg Pains, Nervousness, Rheumatic Pains, Circles Under Eyes, or Swollen Ankles, due to Kidney and Bladder Troubles, you should try Cystex. Usually, the very first dose of Cystex goes right to work helping the Kidneys flush out excess acids and wastes which may have caused your trouble. To prove what Cystex may do to bring you joyous help from the pains and distress of Kidney and Bladder troubles, get Cystex from your druggist and give it a fair trial with the positive understanding that if you are not satisfied for any reason, you get your money back on return of empty package.

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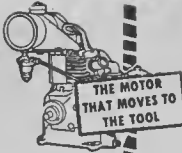
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74,100 square miles are above the dam.

THE most striking and significant fact about Grand Coulee Dam is that it stands almost exactly on the spot where a titanic glacial ice jam once stood. Geologists, whose conscientious efforts have developed the story of the earth and its physical developments, tell us that a good many thousand years ago the sea enveloped all of central Washington, and extended from the Gulf of California to the Arctic Ocean. Slowly the crust of the earth warped and parts of it were elevated, especially the Cascade Mountains and adjacent territory. With this occurred volcanic activity, resulting in enormous floods of lava, spreading out over an area of 250,000 miles from perhaps thousands of fissures in the earth. These were perhaps the greatest lava floods ever to take place anywhere on the earth. What is known as the Columbia Lava Plateau was thus built up, as high as 4,000 feet in places.

One of the results of these lava flows, of which there were at least seven, was to dam up huge rivers and cause them to change their courses. The course of the Columbia River was changed and made to flow into what is called the Big Bend country west of Spokane, the land which now resembles the Canadian prairie country, and is devoted so largely to grain production. Between each lava flow, there must have been cooling and soil development from weathering, with tree life emerging. Many mountain lakes were formed, held in by lava dams.

During the period following the lava flows, the Columbia probably carved its channel 1,600-foot-deep in spots, and the lava plains gradually weathered into a rolling topography. Still later came the invasion of the great Cordilleran ice sheets. Great fingers of glacial ice



A completed portion of the dam.

flowed southward throughout almost the whole of the Columbia basin, giving rise to gigantic floods of glacial water. Eventually, this ice dammed the Columbia River at the sight of the present Grand Coulee Dam, forcing the river to cut a new channel to the westward, through what is now the Grand Coulee.

The excavating power of these glacial waters operating on a fall of 20 to 30 feet per mile was extremely great, and at one time in the Coulee it is believed that there was a fall of tremendous size, about 800 feet in height and two miles wide, equivalent to a great many Niagaras. This great waterfall cut its way back for nearly 30 miles to the Columbia River.

Eventually the ice began to melt and the climate grew warmer. Glacial floods completely subsided: The waters of the Columbia River were allowed to resume their old channel to the sea. Today the great Grand Coulee Dam stands in place of the mammoth glacial barrier. Grand Coulee itself is empty of water, except for a few small lakes filling pot-holes ground out of the rock by falling glacial water. The vertical cliffs rising for hundreds of feet on either side of the wide Coulee tell the story of the successive lava flows. Now once again, it will be filled with water this time for irrigation, diverted by a man-made channel.

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The Lighter Side of Farming . . .

Neighbors scoffed at first. But now some of the most decided critics have become golf addicts themselves.

by

J. W. GALLenkAMP

LET'S forget about farming for a short time and talk about something else for a change! What a thing to say in a farming paper, isn't it, Mr. Editor? However, I am going to take a chance and talk about fun on the farm for a while.

How many people have looked upon a farm as a potential golf course? Not all of it naturally, for after all we have to do a little work on the side. But farmers who are fortunate enough to own a flock of sheep have a heaven sent opportunity to mix business with pleasure. It took me quite a while to cotton onto the idea. But golfing is in the air, and however dim a view one takes of the game, one can't help being aware of it.

Curiously enough, golf is the only game usually looked upon with contempt by those who do not play it. There does seem to be something very futile about bashing a sitting ball just to follow it up to repeat the same performance time after time. Then on top of it all to have to lug around half a ton or so assorted clubs on a hot day while doing it.

I remember one of my neighbors remarking that if anyone caught him playing that fool game they could rush him off to a padded cell. Today that same man, though well over seventy-five, lives for golf, and his friends tell him that he will be picked up dead on the third green some day. The old boy's comment to that is, "Well, it's a good place to die anyway."

BUT to get back to the heaven-sent opportunity. Sheep by nature are perfect self-propelled lawn mowers, and last spring they had my crested wheat pasture nibbled down until it looked like Epsom Downs on Derby Day. The sheep were lambing at the time. So I spent a considerable part of every day on it waiting for interesting events. One day a friend who suffers badly from the golf bug said to me, "What a grand course you have here. Why don't you practise a little while you are sticking around?"

The idea clicked with the rest of the family, including the hired man. He, being young and husky, developed enough power when he took a swing at the ball to drive it into the stratosphere. Fortunately, perhaps, connecting with the ball isn't quite so easy as it looks. and one of three things happened after those mighty swings. Either the ball was still sitting there, or it rolled a few feet with its surface badly wrinkled, or it disappeared over the horizon. Then we had to engage in the bane of all golfers—a hunt for the ball. And does a golf ball know how to hide! Every little clump of bush is a resting place for it, but what it loves best is to roll down a gopher hole.

That's golf. It wouldn't be so interesting if there were no hazards. But the greatest hazard of all is kids. If they are not standing right behind you waiting to get a poke on the nose with the back of your club they suddenly pop up in front right in the line of fire. Fortunately their mother made most of the bull's-eyes on them and because



The sheep pasture now provides tragedy as well as humor.

she belongs to the "weaker sex" they are still living.

EXPERTS will ask, "What did you do for greens?" We did without them. Fixing up greens just takes too much time and work. Instead we introduced a few new rules into the game which, if not according to Hoyle, worked out all right. We set up stakes at suitable distances with white flags nailed on to them. Around the stakes we marked circles about one foot in diameter. The idea was to put the ball into the circle. "Sinking the ball"—getting it into the circle—was accomplished more by good luck than good management. And I'm afraid that wartime rule of improving the lay of the ball on rough ground was sometimes overworked. Oh, well, it was lots of fun.

Yes, the garden got rather badly neglected while we were enthusiastically knocking balls around the course, often until we needed a flashlight to find them. But then you can't have everything. Sunday was our great day. That was when neighbors showed up to try their hand at the game. Some got quite good before the season was over.

A golf course is not complete without a clubhouse and my pumphouse, which was situated in a nice shady spot at the eighth hole, came in handy. The stock tank was full of ice cold water and our refreshments were put in that to cool. Well? What's the matter with a bottle of nice cold beer on a hot day?

The last time we played, it was blowing and cold and trying to snow. We were going to quit after every round, but I think we went around six times before we finally did. When I got home my wife told me I was crazy. She was probably right. As I write the ground is covered with snow and I look at my clubs and wonder if I could play a round with a red ball.

Collective Farming for Veterans

UP to the middle of April, the Saskatchewan Government had received around 300 applications from veterans desiring to engage in co-operative farming enterprises. In 1946, the Department of Reconstruction at Regina made 763 allocations of land to veterans, and completed 722 leases, but until April 15 it had not been possible for veterans engaging in co-operative farming, to receive veterans' land grants.

It is understood that the new provision, now arranged at Ottawa, allows veterans to receive grants up to \$1,200 in co-operative farming enterprises, provided not more than ten veterans in any one group receive such grants. These monies are for the purchase of machinery and equipment, and especially affect 17 veterans now operating a co-operative farm on the old Matador ranch north of Swift Current.



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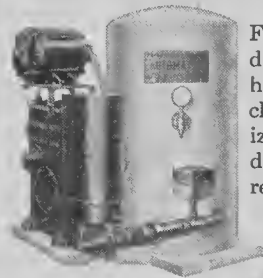
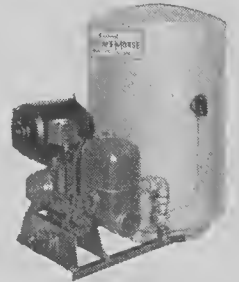
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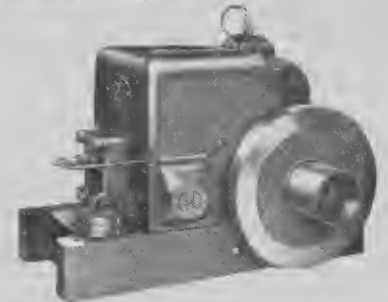


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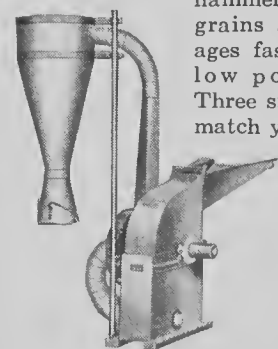
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Telling the Time by the Stars

A farmer can learn something from the sailor's copy book

FARM boys, especially in this land where roads and fences provide accurate north-south bearings, become expert in telling the time by shadows. How many farm boys are there who have never owned a watch, and yet arrive unfailingly on time at the kitchen door with nothing but the sun to guide them. I have often noticed how farm boys who move to the city can surprise town bred people, who are usually helpless without a watch, by the accuracy with which they can guess the time at any daylight hour. But when it comes to night time the farmer must take second place to the sailor who has a star clock riding the heavens.

There is nothing difficult about reading the star clock. You must learn to identify one certain star, Caph, and you must be able to make corrections for the seasonal procession of the stars across the heavens.

Every out-of-door Canadian knows the Big Dipper with its pointers aimed at the Pole star. On the other side of the Pole star from the Big Dipper, and about the same distance from it, is a constellation known as Cassiopeia. It is shaped like a "W" except that one of its legs is splayed out wider than the other, like a colt learning to walk. Forget the splayed out leg and look at the star at the other point of the W. This star is Caph, the one on which your time calculation must be based.

The sailor has devised a time clock marked off into 24 hours counter-clock-

Suppose that in mid-December the position of Cassiopeia is as (b) in our picture. What is the local time?

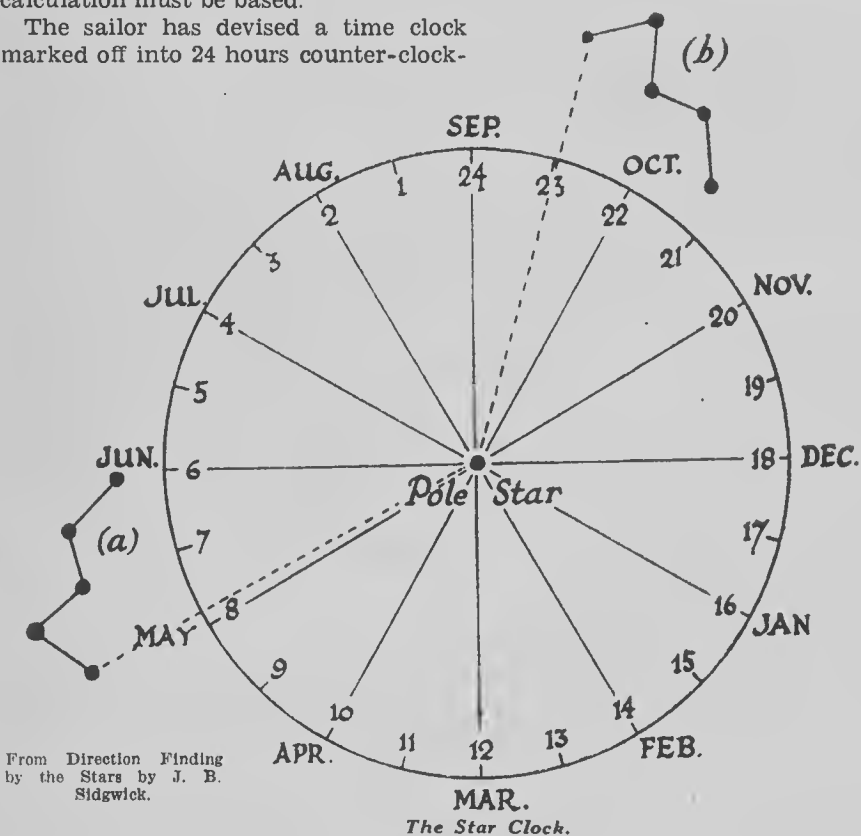
Number nearest the
hour hand 23
Number against the
current month 18

Therefore local time.... 41
41-24 equals 17 hours or 5 p.m.

The sailor's star clock, you will notice makes allowance for the fact that the stars are in a slightly altered position every night. They are always four minutes earlier than they were on the previous night. If you read the star clock on June 15, say, at 10 p.m., you will find that the stars are in the same place as they were on midnight of May 15.

You will notice in the above that I specified "local" time. Don't let that confuse you. This may differ from what your watch says for two different reasons. You may be living in an area which has adopted daylight saving time, in which case you will be an hour behind on the star clock.

Also our official time zones cover a lot of territory. In western Canada we have one time zone from Fort William to Broadview, Sask., if you happen to be on the C.P.R., and another one from Broadview to Field, B.C. Common sense will tell you that the sun doesn't rise



wise, and into twelve months around the dial clockwise. This dial he holds up, in his mind's-eye, against the northern heavens, with the centre in line with the Pole star. Now following the sailor's technique, take the line joining the Pole star and Caph as your hour hand. Make a mental note of the number on the dial of your star clock nearest to this line. Add it to the number on the star clock for the current month. This sum will give you "local" time. In the event of the sum being more than 24, subtract 24 from it and the remainder will be local time.

Look at the picture on this page and let us apply the directions just given. Suppose that in the middle of February Cassiopeia is observed to be in the position of (a). What is the local time?

Number nearest the
hour hand 8
Number against the
current month 14

Therefore local time... 22 hours
or 10 p.m.

at six o'clock on a given morning on the farmhouse east of Broadview, and then wait an hour to gild the cupola on the barn west of town. Local time advances steadily around the world. Time zones are devised for human convenience, and local time at the extremities of a time zone may be anything up to a half hour out. The sailor who alters his clock every day according to local time at sea isn't bothered with these complications.

There is another point on which to be careful. Star time varies two hours between the first and last days of any month. The even numbers on our clock opposite the month are about right for readings taken in the middle of the month. If you make your observations near the end of the month, you should select one of the odd numbers between the months to add to the reading of the hour hand.

D. R. P. (Darby) Coats of CKY, Winnipeg, an amateur astronomer known to all radio listeners, recently told me

Turn to page 61

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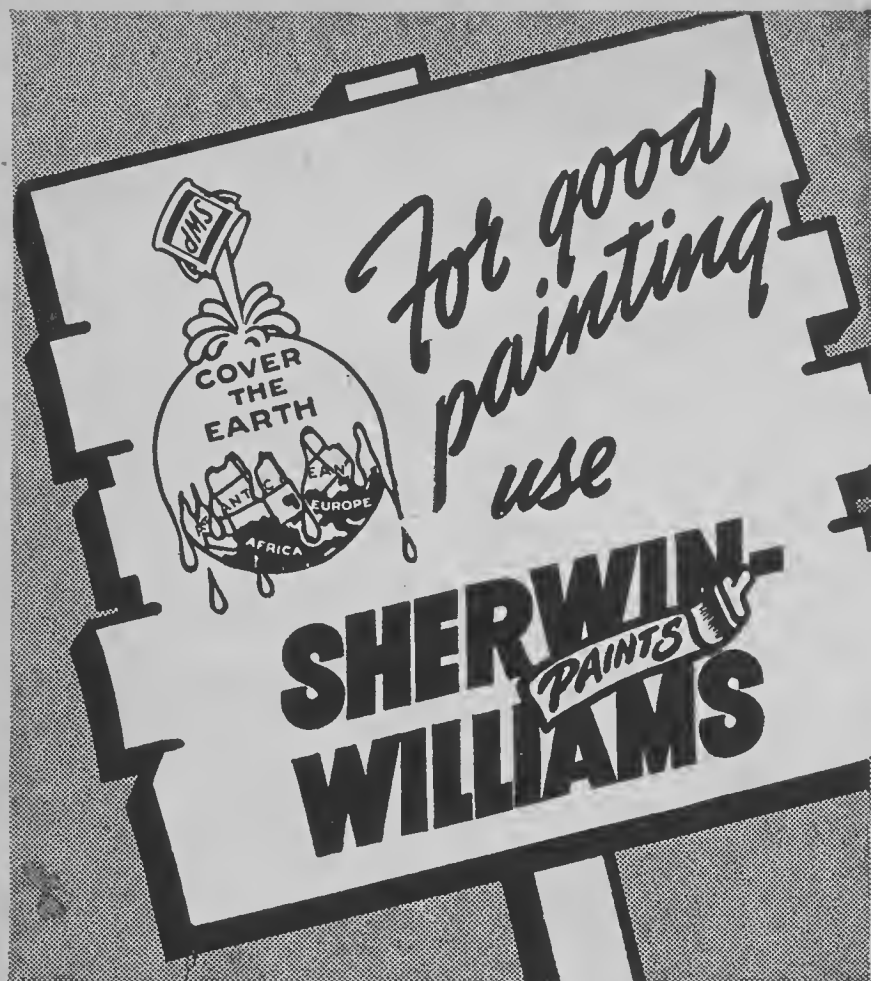
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Monthly

Subsidies and Coarse Grains Prices

Are subsidies to feeders who buy oats and barley to be discontinued on August 1, 1947? That question has been much discussed during the past month and the answer is still uncertain. About all that can be said definitely is that the answer will depend upon government action that may be taken to de-control prices of livestock products.

Quite probably the buyers of feed, to safeguard themselves, will lay in as large supplies as they can of oats and barley, and prepared feeds containing those grains, as long as the present subsidies of 10 cents per bushel on oats and 25 cents per bushel on barley remain.

The Hon. Mr. Gardiner, Minister of Agriculture, announced the present government policy respecting coarse grains in his speech in the House of Commons on March 17. After describing the increase in the ceiling price of oats to 65 cents and in the ceiling price of barley to 95 cents, he went on to say:

For the time being, because of the continuation of price ceilings on animal products, payments of 10 cents per bushel for oats and 25 cents per bushel for barley will be made within the same conditions as the 25-cent payment on wheat purchased for feeding purposes. The payment of these subsidies will have the effect of leaving the cost of these feed grains to feeders approximately at their present levels. I might add that I will shortly ask that a sum be voted to cover the cost of these feed subsidies.

The important words of the foregoing are "for the time being." They made it clear that the subsidies in question would not be continued indefinitely, but only so long as price ceilings are continued on animal products.

Mr. Gardiner made a later speech in Brandon on April 1 when he was reported by some papers as announcing that the subsidies in question would be discontinued next August 1. That created a great deal of interest and many persons took it to indicate that on August 1 not only would ceilings be coming off the prices of animal products but also that at the same time the ceilings might disappear on prices of oats and barley. However, Mr. Gardiner made it clear in a speech he made in the House of Commons on April 14 that no definite announcement of Government policy has yet been made. He then said:

The only reference made to any period beyond August 1, 1947, is the fact that the ceilings may not be off all agricultural products that are affected by grain. Up to the moment we have taken the ceiling off eggs, and there have been suggestions that the ceilings will come off other farm products, but no one will know exactly what the relationship between livestock and feed grain prices will be until we get close to August 1.

It must not be supposed that when ceilings are removed from the prices of oats and barley either that all control over such prices will disappear or that feed grain prices in Canada will rise to levels corresponding to those in the United States. The Government will have available another instrument than price ceilings to prevent any great advance in feed grain prices. That is an Act which has been passed by the House of Commons "respecting export and import permits." Under that Act export and import permits may be required, and fees for such permits may be collected, on certain products "in

order to ensure an adequate supply and distribution in Canada." It has also been provided that no one except the Canadian Wheat Board may export oats or barley from Canada until July 31, 1948, unless he has authority from the Wheat Board.

Thus, although Canada may well produce in 1947 enough oats and barley to provide a surplus, some of which may be exported to the United States, the demand from that country will not be allowed to drive up Canadian prices to levels corresponding to the high prices which now prevail for oats and barley in the United States. By regulating the quantities which can be exported under permit, the Wheat Board will probably be able to make sure that adequate supplies of these grains are kept in Canada and available to feeders at prices roughly corresponding to present ceiling prices. In all probability such control will be exercised. At the present time malting barley prices in the United States are approximately \$1.00 per bushel higher than those which prevail in Canada. Only limited exports are allowed and the fee charged for such exports has lately been \$1.00 per bushel. That is high enough to ensure that any barley exported to the United States is used for malting because feed barley, from 50 to 65 cents lower per bushel in the United States than malting barley, could not move under such a handicap. How much malting barley will be allowed to move into the United States during the next crop year will depend upon total production of barley in Canada and whether or not it is thought necessary to hold in this country for feed, barley that could be exported to the United States at high prices for malting. There is nothing yet to suggest what policy the government may follow with respect to controlling malting barley prices if and when the ceiling on barley disappears.

Prices in the British Wheat Agreement

Disagreement on price led to the failure of the International Wheat meeting at London to draft an agreement acceptable to the different countries there. The matter has not been entirely dropped and efforts will be made in a later meeting of the Wheat Conference at Washington to iron out differences.

Whether or not those multilateral discussions achieve some result, another wheat price discussion will have to be undertaken by Canada during the current year, this time a bilateral discussion, that is in connection with the wheat agreement between Canada and the United Kingdom.

In that agreement, as everyone knows, a price basis of \$1.55 per bushel was set for the 160 million bushels of wheat to be sold by Canada to Great Britain during each of the crop years 1946-47 and 1947-48. Prices for each of the two following years, during which Canada's commitment is to supply 140 million bushels annually, were left indefinite; although it was agreed that they should be less than \$1.25 per bushel for 1948-49 and not less than \$1.00 per bushel for 1949-50. The agreement specifies that:

The actual prices to be paid for wheat to be bought and sold within the crop year 1948-49 shall be negotiated and settled between the United Kingdom government and the Canadian government not later than December 31, 1947, and prices for wheat to be bought and sold within

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Commentary

the crop year 1949-50 shall be negotiated and settled not later than December 31, 1948. In determining the prices for these two crop years, 1948-49 and 1949-50, the United Kingdom government will have regard to any difference between the prices paid under this agreement in the 1946-47 and 1947-48 crop years and the world prices for wheat in the 1946-47 and 1947-48 crop years.

The negotiators who, before next December, meet to settle a wheat price for the crop year 1948-49 are not going to have an easy time of it. Conditions will be a good deal different from those which were contemplated when the agreement was signed in July, 1946. Presumably both countries at that time had the idea that wheat prices were near their peak and that a decline was to be expected before the time set for negotiations. Certainly neither country anticipated that before the agreement had run eight months "world prices" would rise to such an extent that Canada would sell a good deal of wheat to other countries at more than \$2.85 per bushel, as has occurred, and some wheat in excess of \$3.00 per bushel. When the negotiators meet some time after July 31 this year and before December 31, they will have to determine just what the agreement means by its reference to "the world prices for wheat" and what those prices have been during the crop year 1946-47. In the light of the figures they arrive at, they will have to decide by how much the minimum price of \$1.25 should be increased for the crop year 1948-49. That will be particularly difficult if wheat prices generally hold anywhere near present levels until July 31, 1947. Great Britain will naturally want to have taken into account the decline from present levels, which is to be expected, but which may or may not have begun to an important extent by that time. Canada, on the other hand, presumably would stress the large price advantage Great Britain has had during the first year of the contract, an advantage which may be continuing during the second year.

When the contract was drawn, and \$1.25 was put as the minimum for the third year, there was evidently in mind the possibility that the actual price might be fixed somewhat higher. But probably on neither side did the negotiators contemplate a price for that year as high as \$1.55, the level set for the first two years. It may be, however, that a price considerably higher than \$1.55 would seem to be logical if nothing except the course of world prices should be taken into account.

Some persons, knowing the difficulties in prospect for such negotiation, have suggested that the contract might be allowed to expire at the end of the second year, through failure to agree on a price basis for the third year before December 31 of 1947. A much more probable development, if agreement during the time specified could not be reached, would be postponement of final settlement of the price. That step might be put off for another six months or possibly even longer, late enough for the results of the 1948 crop to become known.

Wheat Quotas and Authorized Acreage

So far as the crop of 1947-48 is concerned, there is to be no such thing as an authorized wheat acreage. Any delivery quotas which may be set from time to time by the Canadian Wheat Board will be based on seeded acreage. Announcement to that effect was made

recently by the Hon. Mr. Mackinnon, Minister of Agriculture, after the new Wheat Board bill had been passed by the House of Commons and before it had gone through the Senate.

This does not mean that the idea of an authorized acreage has permanently disappeared. It might be introduced again under the terms of the Wheat Board bill as it now stands. The Government has announced, however, that for the period of the British Wheat Agreement, or until July 31, 1950, it plans to accept from farmers all wheat for which space can be found in elevators.

Delivery quotas based on an authorized wheat acreage were first introduced in 1941. The authorized acreage was to be 65 per cent of the acreage actually seeded to wheat by any farmer in the base year 1940. That concept of an authorized acreage was carried forward by the Canadian Wheat Board from year to year in issuing permit books. Instead, however, of sticking rigorously to the original plan of basing authorized acreage on actual acreage of 1940, the Permit Department of the Wheat Board has made many changes. Authorizations have been altered, mainly upward, although in some cases they were reduced. The apparent intention was to adjust the authorization for each farm to correspond with the prevailing practice in different districts. That is, an increase would be allowed so that the authorization for any farmer would give him that percentage of his total cultivated acreage for wheat which would correspond with the general farm practice of his district.

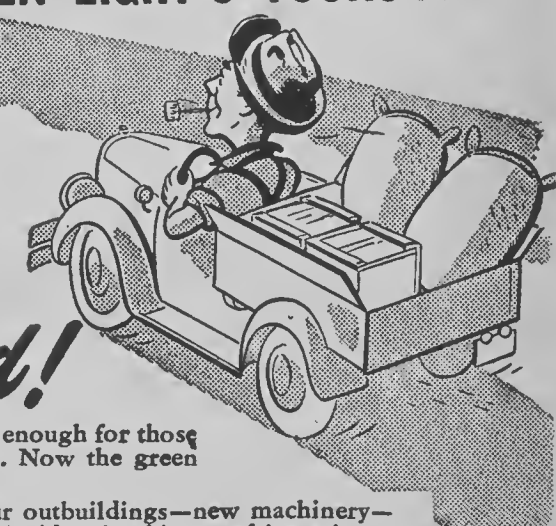
When a new Government wheat policy was announced with the signing of the British Wheat Agreement in July, 1946, it was evidently the intention to continue some sort of acreage control by means of authorization. It was announced that farmers would be allowed to deliver all the wheat they produced from the crop of 1947 and that deliveries for subsequent years would not be limited to less than 14 bushels per authorized acre. It was not stated, however, what principle would be followed in arriving at authorizations, whether these would be set in relation to the actual wheat acreage of 1940 or whether they would be based on prevailing farm practice in different districts. A clause of the bill gave the Board power to fix quotas but it seemed to be left to the Wheat Board's discretion to determine on what basis they should be fixed. The clause of the bill relating to this matter declared that the quote for "any crop year prior to or ending on the thirty-first day of July, 1950, shall be not less than 14 bushels in respect of each acre of the specified number of acres in respect of which the quota is fixed."

From the foregoing it is apparent that the Wheat Board, under the bill as it now stands, will have continuing powers to establish quotas, and that after 1950 there is no restriction on its powers to limit deliveries. Quite evidently such powers could then be used as an indirect means of controlling acreage. If they are so to be used, the question of principle to be followed will doubtless come up for later discussion and argument. It would not seem practicable in the future to go back to the acreage actually seeded in 1940 as a measure of control. Since that time a great deal of new land has come under cultivation, many transfers of farms have been made and have been recognized in the issuance of permit books. Many adjustments in authorized acreage have been made, and quite probably many more would have to be made before authorizations would represent any consistent plan.

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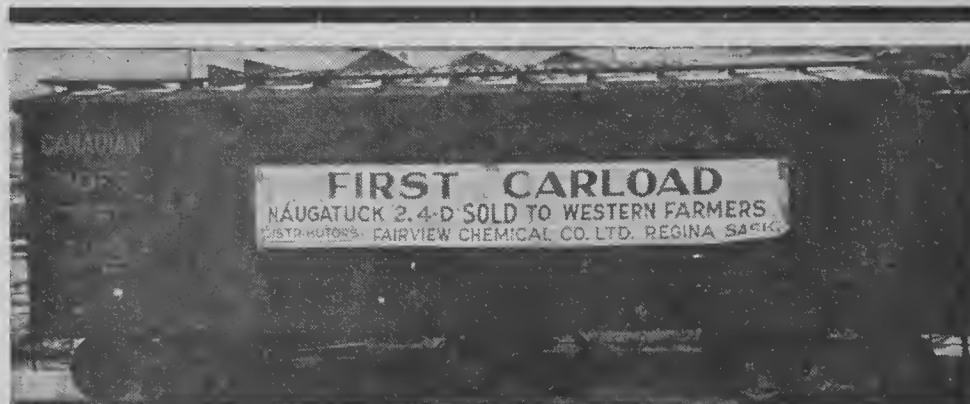
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NAUGATUCK 2, 4-D, is a PROVEN selective weed killer. This was corroborated by tests carried out right in western Canada, at the Dominion government experimental farm at INDIAN HEAD, and at the REGINA substation. By using a power sprayer, a solution of approximately one pint of NAUGATUCK 2, 4-D to five gallons of water, when applied to an acre of grain is effective for weed control. NAUGATUCK 2, 4-D is completely soluble in water. This permits great areas to be sprayed quickly and economically. Tests at Indian Head showed that mustard could be killed to a distance of more than 60-feet away from the sprayer! REMEMBER,

the 1947 quantity of NAUGATUCK 2, 4-D available to western farmers is limited. The first carload of Naugatuck 2, 4-D shipped this year (see photo above) was received by FAIRVIEW CHEMICAL COMPANY Ltd., of Regina, recently. This is sufficient to effectively control mustard in growing grain crops over an area in excess of thirty square miles. Order your requirements now. For complete information as to prices, method of spraying, official reports, etc., write at once to:

LOOK!

Report from Government Experimental Farm, Indian Head, Sask.—
"Field sprayed with 500 c.c. (approximately one pint) Naugatuck 2, 4-D per acre in five gallons of water showed an increased wheat yield of 6.30 bushels per acre."

Report from Government Substation at Regina, Sask.—
"Field sprayed with 500 c.c. (approximately one pint) Naugatuck 2, 4-D per acre in five gallons of water showed an increased wheat yield of 4.81 bushels per acre."

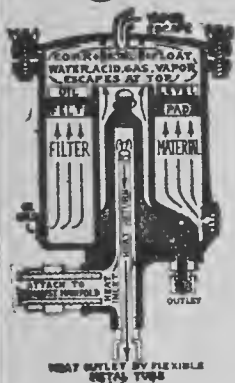
NOTE:—These figures are quoted from actual figures released by the Field Husbandry Division of the Dominion Experimental Farms Branch.

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NEIGHBORLY NEWS

Contributed by the Elevator Agents of
UNITED GRAIN GROWERS LIMITED

A Creditable Showing

Foxwarren district again held up its end as usual in the prizes at the recent Brandon Winter Fair. Grand champion Shorthorn steer between 900 and 1,000 pounds was won by Widdicombe Bros., who also took second and third in the 12 to 18-month heifer class (short horn) and fifth for Shorthorn bull. V. Falloon, fifth and thirteenth class from twelve to 18 months. The Grand Champion Shorthorn bull was bought by E. Burdette and brought back to his farm in the district.—*Foxwarren, Man.*

Junior Seed Growers Course

The Junior Seed Growers of Vista sponsored a four-day Agriculture course which was held in the Community Hall. About twenty-five men in the district attended the course which was a very successful affair.—*Russell, Man.*

Successful Frolic

Saltcoats Agricultural Society held their Annual All-Night Frolic with approximately 500 in attendance. The first part of the evening was given over to the play, "The Path Across the Hills," presented by the Saltcoats Red Cross Players, while the remainder of the evening was spent in dancing.—*Saltcoats, Sask.*

Tuberculosis Fund Benefits

The A.C.T. Amateur Program held in the Pipestone Memorial Hall recently, and broadcast through CKX Brandon, in aid of the Tuberculosis Fund, met with great success. The proceeds netted \$939, and revealed some excellent local talent.—*Pipestone, Man.*

Regional Prize Winner

James Clements who farms in the Killarney district, was a regional prize winner in the recent National Barley Contest.—*Killarney, Man.*

Passing of a Pioneer

The recent passing of John Karpow of Arelee district, deprived this district of one of its oldest and most respected citizens. Mr. Karpow came to Canada 51 years ago, from Kiev, Russia. In the year 1901 he came to the Eagle Creek Municipality (which was then part of North West Territories) where he took

up a homestead. Here he made his home for the past 46 years, and his farm rapidly developed into one of the largest and finest farm units in the Municipality.

Over 400 people gathered to pay their last respects to the memory of this fine neighbor and friend of the best in agriculture.—*Arelee, Sask.*

Happy Birthday Congratulations

Mr. Ed Lofgren of the Blindman Valley district recently celebrated his 75th birthday. Mr. Lofgren has been a U.G.G. customer for 25 years. He operated his own farm until a year ago when his son, Walter, took charge. He is still keenly interested in all farm activities and still resides on his farm.—*Prevo, Alta.*

Spring Activity

Many farmers have had their grain cleaned for seeding, the United Grain Growers having installed one of the latest type grain cleaners.—*Three Hills, Alberta.*

U.G.G. Elevator Improvement

United Grain Growers elevator was a very busy place while the Calgary Power Company were installing electric power. The repair crew installed a new grain cleaner.—*Wesser, Alta.*

Sells Valuable Bull

Abe Snyder, one of the best known pioneers in the breeding of Shorthorn cattle in the Didsbury district, recently sold his bull, Real Monarch for \$600. Last year Mr. Snyder's bull, Bar None, was chosen by the National Film Board for filming and is now being shown in Western Canada.

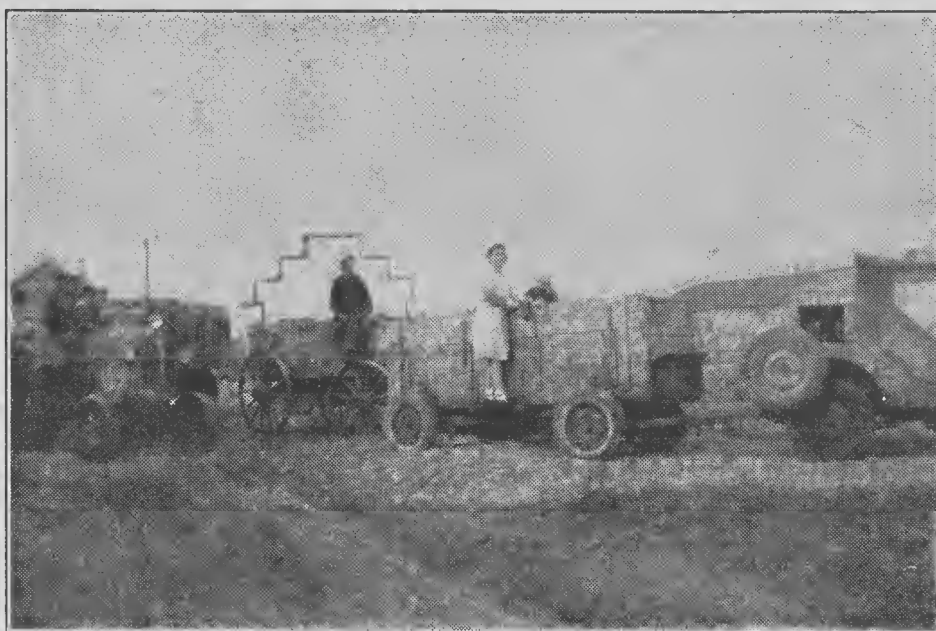
Besides being a loyal U.G.G. supporter and a past member of the local board, Mr. Snyder is also well known for his achievements in the raising of high quality grains and forage crops.—*Didsbury, Alta.*

Another Busy U.G.G. "Bee"

Aspen Beach was a busy place for two weeks recently. United Grain Growers Limited loaded out 17 cars of grain and the elevator now has plenty of room for the spring delivery of grain.—*Aspen Beach, Alta.*

Vivid Memories of Flood

The recent spring thaw also brought a flood. The ditches were overflowing in many places and some of the bridges on the farm roads were washed out.



By auto, truck, trailer and tractor—to the Neighborly Elevator



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MILL files (single cut) for sharpening edged tools. FLAT files (double cut) for heavier filing, and for general repairs. SLIM TAPER files (triangular) for filing handsaws. HORSE RASP for dressing hoofs. WEBSAW files for pulpwood saws. CANTSAW files for "M"-tooth crosscuts.

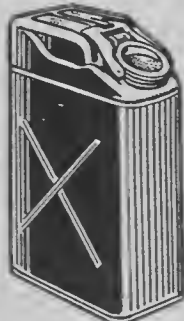
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- Compact in size.
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- Extra heavy construction.

Size
18" high, 6 1/4" thick,
13" wide.

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11 lbs. each.

Storage for gas, oil or water—just what you have been waiting for! Suitable as an emergency can around the farm, hunting or lumber camps, mine, etc. Necessary as well as useful on boats, trucks and cars. Can be stored in trunk.

EACH
\$1.65 Lots of Five \$1.55 each Lots of Ten or More \$1.50 each

FOR IMMEDIATE DELIVERY

PRINCESS AUTO WRECKING

FORT and YORK
WINNIPEG MAN.

The flood rushed into town very suddenly and several persons had to evacuate their homes.—Beiseker, Alta.

71—Still Going Strong

Dan Greene, a well-known old-timer of the Hanna district, celebrated his 71st birthday recently. Mr. Greene has been a very active member of the U.G.G. local and is still a very progressive farmer.

Ample Gas Supply

Berry Creek Well No. 1, located a few hundred feet from the U.G.G. elevator, "blew in" recently with a gas pressure of over 1,000 pounds. It is generally recognized that there is more than ample gas to supply the town of Hanna.—Hanna, Alta.

Golden Wedding Celebration

Mr. and Mrs. August Vermiere recently celebrated their golden wedding anniversary. Both were born in Belgium and were married in Bruxelles, Manitoba, April 19, 1897. They farmed in the Swan Lake district for 40 years and are now living retired in Swan Lake.

Five children, nine grandchildren and one great grandchild were present at the anniversary.

Notable Achievement

The Francis Farms, breeders of pure-bred Hereford cattle, and widely known throughout western Canada recently sold eight bulls at an average price of between \$700 and \$800.—Carstairs, Alta.

Junior Oat Club Active

The Clive Junior Oat Club recently elected Laurence Wagner as president, and Leonard Oro as vice-president, for 1947. Stanley Hecht will act as secretary.

The members decided to grow Lar-rain Oats this year and 18 applications were accepted at the close of the meeting.

The Clive Oats Club have won the silver cup trophy for two consecutive years for the highest scoring club in Alberta and the Juniors believe they can do it again this year.—Clive, Alta.

Posthumous Award

Posthumous award of the R.C.A.F. operational wings for "gallant services" has been made to P.O. Gerald Arthur Young.

Enlisting in the R.C.A.F. P.O. Arthur took training in Winnipeg, then Lethbridge, where he graduated as a wireless operator air gunner in March, 1942, going overseas. After numerous operations over several countries, he was reported missing with all members of the Lancaster bomber crew after air operations over Munich, Germany, during the night of March 9, 1943, later being officially presumed dead.

He was born in South Benfleet, England, November, 1915, and came to Canada with his parents to reside in Acme in 1919, where his mother still lives. He received his education at Acme public and high school, and was active in all sports. Besides his wife and son the gallant young officer is survived by his mother, two sisters and a twin brother.—Acme, Alta.

To Live at Olds

D. L. Dye recently sold out his farm holdings and purchased two sections of land west of Olds, Alberta. Mr. Dye and family have been residents here for the past 20 years.

At a farewell gathering a presentation was made to Mr. and Mrs. Dye on behalf of the community by W. Allcock (U.G.G. agent). A gift was also presented to Mr. Dye Jr. on behalf of the young folks by R. L. Bittle.—Langdon, Alberta.



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Hold a Westclox in your hands... you can actually feel the quality of these fine clocks! Examine the finish, the careful workmanship... everything about these clocks tells you that these are products of fine craftsmanship. And proof is in performance, the dependability that makes Westclox the most respected name in clocks.

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"MIRACLE" DAIRY FEED contains these necessary and vital elements. Tests have shown, too, that feed costs may be reduced easily 20%.

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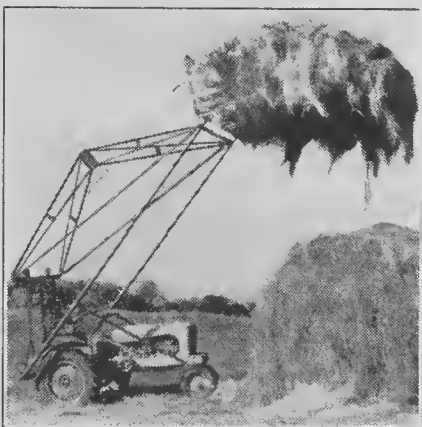
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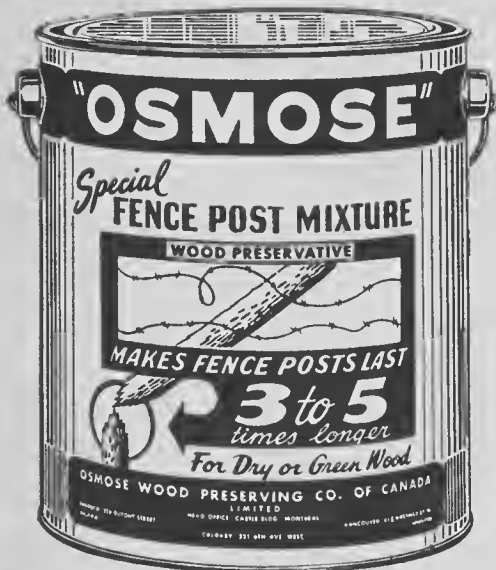
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THE LOST TOWER OF RODONDO

Continued from page 6

captious critic, insistent about water and drainage, taking pains with trenches, tightening guy ropes over and over, fussy about removing every twig that could harbor an insect. But now, as dark fell, he merely heaved the bedroll into a corner.

He could feel Vereen's eyes resting upon him questioningly; but Vereen was wise enough to feel his mood and not to talk. It was Vereen who tramped about with the hatchet, Vereen who cut the poles and laid the fire, Vereen who unloaded the boat. Craig made a fumbling job of slinging the tent up, going half-heartedly over the ropes a second time as a matter of habit. But there was no thrill in it for him.

He struggled against the pressure of his own silence, and once, when Vereen sat before the fire holding the griddle with some slabs of bacon laid across it, Craig made a desperate attempt to tear aside the barrier of misunderstanding which had been thickening between them all day.

"Something about this darn spooky place . . ." he began helplessly, and a bit wistfully. "I can't seem to throw it off."

"Yeah," returned Vereen absently. "You encourage that sort of stuff, Johnny."

Craig's groping friendliness chilled and then flared, shimmering to an ember. Something warned him that now was the time to slay this folly. Dick Vereen was his friend. Dick's influence with southern capital had got him his job with a crew of harbor engineers. It had been a beautiful and perfect thing, their friendship. But the gripping stiffness would not yield.

Vereen finished his supper and dipped his plate in the river, scouring it clean with sand. "Wonder why those old fellows ever came up here in the first place?" he remarked, looking about at the moss-hung trees. "After gold, probably. Two hundred years is a long time, though. Queer to think that men were here two hundred years ago—and that they're gone now, with the wilderness fiercely destroying their tracks."

It was then that Craig saw the spider. Squared before them, scintillant in the light of their fire it hung—orange-bodied, legs of velvet wire, jetty eyes unblinking and crafty—old, hoary, and evil. Unconsciously Craig moved back. There was something hideously repulsive to him in those crouching insects, with their poisonous, sinister air of waiting; their sly, wise scuttling; their busy spinning of grey palls over the crumbling works of men; their barring of doors with their spangled, triumphant curtains.

Viciously, Craig seized a paddle and lashed out, sweeping down the bannered web into the river. Instantly the spider began a spraddling struggle, swimming for the paddle, his dry bright body like a jewel on the amber water. Sweat stood on Craig's wrists; he felt a curious nausea.

"Kill him," he said huskily.

Vereen laughed. "Can't be done. They've got a million lives apiece. That chap'll probably climb ashore and spend the rest of his life trying to get even with us. They're vindictive cusses."

The spider scrambled up the bank, and Dick set his heel on him, crushing him lightly. Craig caught himself wincing as the weight broke the velvet body. Somehow the poisonous, scuttling thing seemed a part of himself, a grinning essence of the rankling impluse which had tormented him all day.

"Glad you got him," he said hoarsely,

unaware that his face had drained grey. "He'd be in our beds, likely."

Vereen gave him a straight, judicial look. "Better get hold of yourself and cut out this finicky business, Johnny," he said. "You're getting as flighty as a woman."

Craig accepted the reproof silently, somehow grateful for it. He found himself wishing that Vereen would rage at him, bawl him out as in the old comradely days. A row would clear the air, help him to get a grip on himself. But Vereen tramped into the tent, and began kicking his bed into shape, without a backward look.

The fire sank, night things began to cry, but still Craig sat thinking. Almost he could feel a presence beside him, see a cloud of bright hair close to his shoulder, hear a voice which was strong and sweet with understanding. He groaned a little as his head sank on his hands. Craig was very young, and life for him had been a lonely affair.

ALL of another day they paddled through tangled, fantastic richness—fan palms lifting widespread fingers, aghast at their intrusion; vines, cascading over dead live oaks, frothing bloom from earth to sky.

Vereen slumped in the boat, swinging his paddle with an arrogant absence of effort, his head back, his brown throat bare. Craig had shaken off his black mood a little, mastered the surging hate which had bitten to the core of his ascetic spirit, so that he was able to speak calmly, to enter into the spirit of the adventure, at least without loathing.

Then Vereen spoiled it again. "Got your camera?" he enquired casually.

Craig swung his arm, and the leather case which was seldom away from his side slipped into view.

"Want to get a picture for Jinny, if we find anything," Vereen went on. "Old Cong has got her all excited with his tales. She's expectin' us to run into a regular ghost pasture, with skeletons dangling from every limb, and skulls lying round in the dungeon keeps, and everything!"

"Not enough light for pictures," mumbled Craig.

"Might be tomorrow," Vereen returned. He slumped down further, his arms behind his head, as the boat drifted. "Look here, Johnny, there's one darn fine girl!" he mused.

Craig did not answer. His eyes were hidden by the shadow of his hat.

"Not much use talking to you," Vereen grumbled; "old Dominican like you! All you need is a hair shirt, and a shaved spot on top of your head. If ever you do tumble, though, there'll be an awful fall. I'd like to be around to see the rock disintegrate. . . . Go easy, old man—this river is darned wet!"

By a quick, resourceful swing he had the bow back in midstream, grazing an imperiling bank. Craig's face was white. He had laughed as a jagged root thrust out, ripping harshly down the steel side of the boat—and the laugh had startled him, almost as much as it had perplexed Vereen with its short, bitter bark.

Vereen looked at him intently. "Let me paddle," he said in a quiet voice.

"I'll hold her," protested Craig nervously. "I didn't see that one."

Vereen gave him a queer, hard look, but he did not speak again.

AT twilight of the third day the river made a sudden bend, widened and deepened, washing a bank of shell which it was apparent nature had never builded.

"Hey—there she stands!" cried Vereen, excitedly. "There's your ruin!"

"Fortifications, undoubtedly," added Craig, studying the vine-covered heap of crumbling wall that rose abruptly from the shore.

"River got part of it," said Vereen.

"See that wall there—sunk in the mud? Head her in, Johnny; this shore is sloping."

Craig dug his paddle deep. The bow bit into the rattling bank, and Vereen sprang ashore, dragging the boat well up on the shell. He was eager, reckless, animated again after a day of strained, curt, baffled tension which neither of them had been able to end.

Craig followed, relieved by the friendliness of Dick's voice. All day, driving the boat through that wilderness, he had struggled to bring back the old frank footing; but his own mood was steely, and would not be fought off. Always Janet Rush came between, with her hair and eyes like the glow of an October day; and whenever he thought of her, Craig felt the old sick rage surge back, felt his eyes fixed on Vereen's careless, godlike throat. A quick spring—garroting grip! . . . His sensitive face would twitch with anguish as he fought the thought. Somewhere back in his history there must have been a dark-eyed Latin, who had bequeathed to him not only his melancholy eyes and glistening hair, but also his swift, uncontrollable hatreds.

They cut their way in to the old walls, slashing through the tangled undergrowth.

"Those old chaps understood solid construction," Vereen was saying, as they surveyed the crumbling curve of a slender salient to the east, which defended the main wall. "Look at this stuff—six feet thick, and everlasting as the Rocky Mountains. How do you reckon they got it in here, seventy-odd miles from the coast?"

The walls stood in a rectangle, studded with grim portholes, great cedars growing vigorously in the broken angles.

"This shell bank was probably the original moat," Vereen went on, as they trampled into the ruin. "Watch your step—this is a snakes' paradise!"

The hollow square was roofless, but the tangled verdure shut out the light, so that the sunken chambers within were lost in a weird green gloom. Moisture beaded the moldering walls, and dripped from crevices where feathery rock ferns grew. Craig followed Vereen under a high arch shaggy with old cobwebs, and through a low, vault-like chamber, where they scrambled over the jagged remains of a fallen roof. Beyond, in a damp wall, was a low round door, apparently leading down into utter blackness.

"The dungeon keep, by George!" exclaimed Vereen excitedly. "Here's where they holed up the hostile redskins, and any unlucky English scout who happened to prowl on this side of the river."

"Don't try it, Dick," warned Craig nervously; "the hole may be bottomless, and there are certain to be rattlers in it."

THE wall at the opening was four feet thick, and Vereen leaned in, swinging his flashlight into the murk.

"Single cell," he said, pulling his head out and scrubbing the cobwebs off his neck. "Ten feet square maybe, and hot as Hades. There's the slab they sealed up the door with—see how easy it rolls? Those old guys had the dope on handing out death and torture without any great effort on the part of the executioners. Just give that rock a gentle kick, and the unlucky cuss down below drew six or seven hours of hell, and an unheroic and unpublished demise! Then, I suppose, they heaved him into the river. Hold the light a minute, Johnny; I'm going to see if there are any bones down there."

Craig opened his mouth to protest, and then fell silent. Something sly and horrible within him was stirring, moving poisonous feet, spinning—spinning! He took the flashlight, and his hands shook so that the white eye of it danced on the inner wall.

"Hand it down," ordered Vereen,



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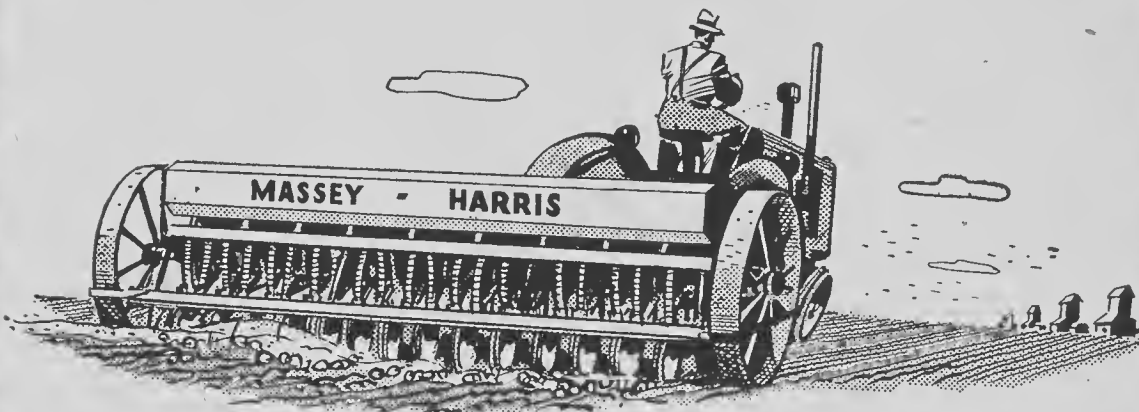
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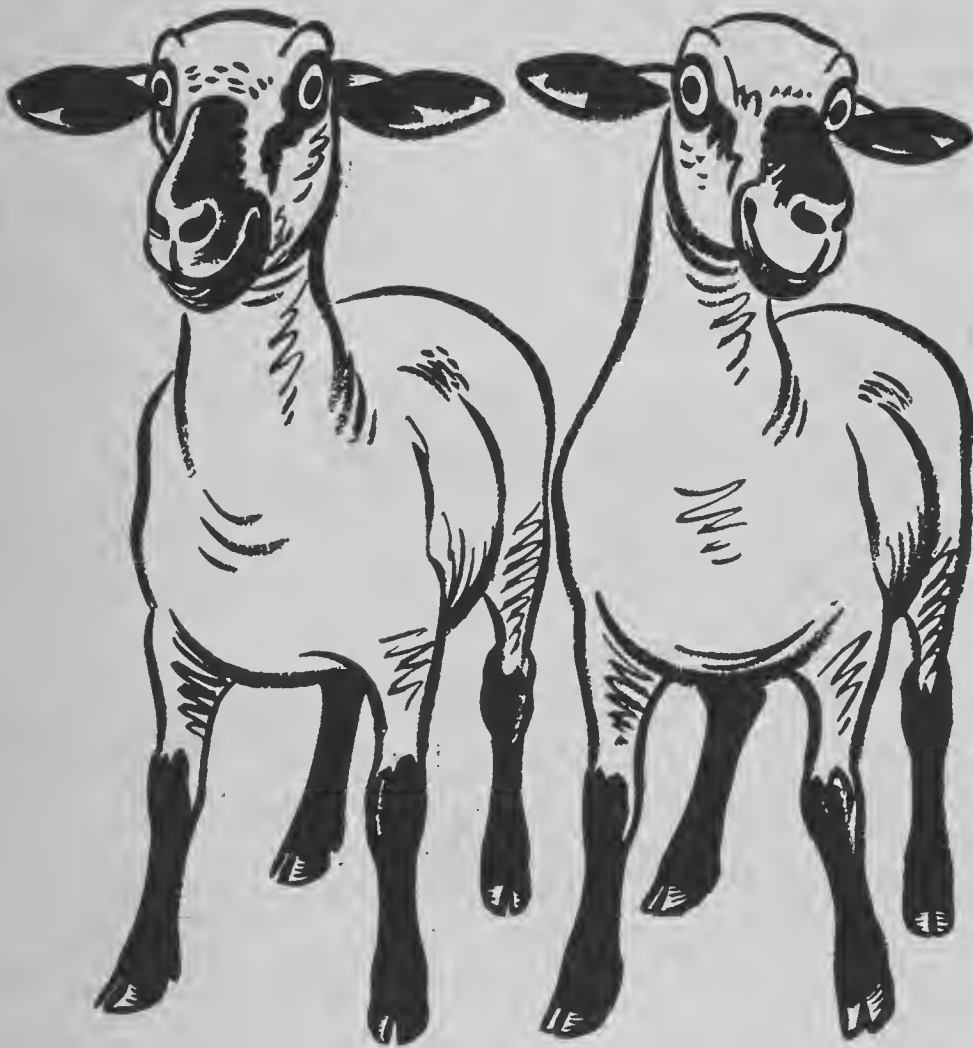
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crawling through the low opening, and turning his body with difficulty as he reached down an exploring foot. "Gosh, this wall is thick. Used to be a ladder here, from the holes bored in the rock. Wonder if there's a slide down here somewhere, leading out into the river? Monte Cristo stuff! Stick around, Johnny; I'll need some assistance getting out."

His voice came muffled, and the plump of his feet as he landed.

Craig hardly heard. He stood stark-still, sweating. Under his hand the great rock, hewed and engined in a vengeful age, moved a little. The torture stone of Rodondo! A push, and it would crash forward, closing the arched opening solidly, hiding for another century the doom cell of those grim old adventurers.

Craig snatched away his hand, watched, fascinated, the almost imperceptible return of the stone to its equilibrium. Then he looked up, and saw blinking at him from the dead vines clinging to the masonry the furtive, evil eyes of a spider.

Almost it leered at him with the sly grin of a familiar.

"See?" it seemed to say. "I spin and spin. I hide—hide! Evil and good, crime and martyr, the loves of men and the hates of men, I bury under my clotted web. What if I should spin a dusty banner across this old stone? Who would know what lay below?"

Craig jerked himself away. Every nerve in his body was taut, singing. The spider hypnotized him with its unwinking jetty eyes. For a hundred years, it seemed, it had lurked there, spinning and hiding, spinning and hiding. It seemed a part of him—it had been waiting for this hour—for him! White as death, his eyes ghastly as grave flares, he stood and stared back at the spider.

Down below, Dick Vereen shouted something. Craig drew a quick breath. Then, hardly knowing what he did, he reached his hand toward the rock. An inch! Two inches! Its cold surface stirred slightly under his fingers; he tensed his muscles. The round white eye of the flashlight came and went in the arc of blackness behind the door. He stiffened himself, closed his teeth on his lip, gave a quick, hard laugh.

The rock moved—and then fell back again. From the cell below had come a hollow, crumbling crash!

Dust swirled out through the opening, damp, smelling of death. There was a loud cry from Vereen, a patter of falling rocks, a tinkle of dust—then silence.

Craig shook off the nightmare lethargy which held him, and leaped into the opening. Flat on his face, he peered downward through the stifling dust. In a corner he could see the white circle of the flashlight, revealing dimly a ragged heap of masonry.

He lighted a dozen matches before one would live in the surging bad air. Then he saw that a part of the wall had fallen inward.

Somewhere beneath it was Dick Vereen. Craig held his breath, called, his voice lost in the muffling stifle of the dungeon. Then without waiting to investigate the condition of the uncertain wall, he swung himself down. Under those crushing rocks of ancient masonry was Vereen, his friend. He rescued the flashlight from the perilous heap of stones, and swung it round. Vereen lay, half sitting, in a corner. His hat was crushed over his face. He had been struck on the head. One huge block of stone was across his knees but his body was free.

Craig laid hold of the great rock which held Vereen prisoner, but it was grimly solid, and he was not able to stir it. He would have to bring levers from outside and he must work quickly before the stale air of the cell overcame them both. He felt Dick's face. It was warm, and there was a little trickle of blood from a wound in the scalp. Craig

shook him, rubbed his hands, shouted at him in his desperation, but Vereen only sighed a little, and sank back against the wall.

Craig stood numb till Dick's breathing came again, jerky, unconscious. Then he began to struggle with the rock across Vereen's knees. Straining, his back muscles tensed, he fought it, sweat standing on his face and wrists. Vereen lay back, inert, the pale circle of the flashlight touching his brown, bloodless face. Craig bent to his ear.

"Listen, Dick!"—he tried to penetrate the numb daze of unconsciousness—"I'm going to get you out—you hear? I'm going to get you out! Sit still till I get a pole—don't bring all the rest of it crashing down on you."

CLINGING to the wet rocks, he scrambled out. The hatchet lay where he had dropped it, and he cut a hardwood sapling, shortening it to the dimensions of the sunken room, pointing it. Then he cut another, heavier and stouter, to brace the rest of the wall. The spider above him blinked, but Craig scarcely looked at it. The nightmare which had tormented him was past. He was sane again, grimly devoted to the job of bringing Dick Vereen out of that smothering prison.

He dropped into the well, praying that the battery of the flashlight would last, treading cautiously. Bracing himself, he thrust his lever under the rock. It moved a fraction of an inch. Craig drew a dozen gasping breaths and took a new grip, swinging his weight upon the sapling. It stirred again—a hair's breadth.

Craig knew that it was to be a slow anguish of labor, sliding, twisting, writhing, fighting this sullen weight. He bent to it, tearing off his khaki shirt and flinging it through the door, dabbing the sweat from his eyes. His head hummed, his temples seemed bursting, his lungs struggled for air with agonized strainings.

When at last the great slab crashed backward, Vereen turned and groaned in pain. Craig had scarcely strength enough to struggle through the narrow opening and fling himself face down on the ground. It was dark, and the insects found him promptly and began their stinging attack, but he was too exhausted to notice them.

How long he lay there he did not know, but the moon was mounting when at last he staggered up and went down to the boat for a flask of water and a vial of ammonia from Vereen's kit.

He unfastened the tent ropes and knotted them quickly into a short ladder. He would have to carry Vereen out on his shoulders. The east was growing grey when he returned to the ruin. He had been most of the night in that stifling dungeon, fighting for the life of his friend. But that struggle in the darkness and heat had left him purged and clean. He looked at the sky, and caught the dawn wind in his face without shrinking. When he stooped to swing himself again through the low opening, the spider swung itself languidly down from the dead vine overhead. Curling and uncurling its noxious legs, it writhed before his eyes.

Craig struck it a savage blow with the hatchet. "Go back to Hades, where you came from!" he cried viciously.

Then he saw the inscription. Dim, defaced, it was nevertheless legible, carved in the rock, a score of words in ancient Latin. Craig translated the ragged lines:

"I, Rodondo, Governor of Florida, Anno Domini, 1740,

Do build this water tower in mercy to men,

And to the Glory of God. Amen!"

Craig felt a curious lightness. "A water tower!" Not a torture chamber at all—this old tower of Rodondo's. "In

mercy to men. Amen!" he repeated wonderingly.

He looked about him like a man awakened from a hideous dream. The old walls had taken on a new aspect. In the light of dawn they had lost their prison grimness. Beaded with coolness, he could almost see them, dripping moisture, the relief of a land parched with a year-long summer.

"In mercy to men!"

He swung himself down through the opening and lifted his friend easily on his shoulders. New strength seemed to uphold him. The injured man's great bulk did not oppress him as he struggled out with the limp limbs dangling across his back.

He laid Vereen down where the amethyst of morning sifted through the moss-hung trees.

"Brace up, old man," he said steadily. "We're going home. I'm going to take you back—to her!"

He straightened his shoulders, fought down the pain in his throat. By a curious trick of imagination he seemed to feel upon his shoulders the sword stroke of that old don who had builded "in mercy to men"—the accolade of Rondondo.

He turned his face up to the golden sun. "I'm bringing him back, Jinny," he whispered. "I'm bringing him back—to you!"

THEY were five days coming out. A mile in from the coast they met a searching party from the Rush house.

"We were frantic!" Janet declared, as eager rescuers took Craig's place at the paddle. "When days passed, and there was no news, I made Dad start."

"I couldn't move him immediately," Craig explained. "The pain was bad, and we hadn't any remedies except iodine and simple things like that. He fainted twice and his tobacco gave out—it was slow work paddling out, and watching for snags. Dick was mighty patient."

"He says you saved his life," said Janet.

"He is my friend," Craig replied quietly.

There was no hate in his heart now, but all the old misery had come back at the sight of her. He would go away, he decided, as soon as he could. It was the only thing to do. There was a train north about midnight, and he knew of a job far south along the Caribbean. He would put an ocean between himself and this girl who was like a song that had been torn out of his own heart—this girl who belonged to Dick Vereen.

He said nothing of his intention to leave. There was excitement enough over getting Vereen's wounds dressed and the shattered leg in a cast, to cover up Craig's small preparations for departure. He would slip off quietly, he planned, saying only a courteous word of appreciation to the Rush family, and catch the night mail boat for the mainland. He would leave a note for Janet. He wrote it when his bags were strapped, read it over with twisting lips. It sounded empty, strained, unreal. But he could not put reality into it without making it ring with the aching cry from his heart, without baring his soul, empty and cold and utterly lone without her.

A high sense of renunciation upheld him as he said goodbye to Vereen. Cheerfully propped on pillows, cigarettes and a week's supply of newspapers at hand, Dick had grinned at him and clasped hands with the old frank fellowship in his eyes. When, with his bags strapped, Craig sat humped on a stringpiece on the desolate little dock above the black melancholy of the river he was grateful for that parting. The madness which had tormented him was now little more than a bewildering memory, but the pain which had begotten it was per-

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sistent. He stared down at the river, praying for the boat. Then he heard a light step on the planking, and looked up quickly. Janet Rush was coming, a nimbus of starlight on her brown hair.

"Why, Craig," she cried, "you aren't going? You were going without saying goodbye?"

Craig stumbled up. "I—I'm sorry," he stammered. "It—it's a business matter. I wrote you a note . . . I . . ."

But she said again softly, "You were going without saying goodbye?"

Starlight and the lap of water, and the pulsing of a pain old as the world. She was so near—and so dear! Something strained and aching snapped in Craig's throat, and then suddenly he was holding her close with the old, old desolate cry of the lovers of the earth.

"Janet! Janet!" Savagely, head thrown back, nostrils defiant, he laughed in the face of the velvet night. "She's mine!" he told the stars. "God made her for me. Oh, Janet, if you knew how I've ached for you! I love you, girl—did you know it!"

She was laughing a little and crying a little, her hands cold and groping in his own.

"Janet, you do care—you do!" A moment's wild, sweet madness, and then the chill, sickening shock of realization.

"Janet—Oh, my girl, my girl, you belong to him!" Nothing that the torturers of old could have devised was like this! No rack, no water crypt, no fire, no steel like this pain.

He let her hands fall dully. "Forgive me, Janet. I'm a little mad, I think. Forgive me—and goodbye!"

Before his feet the black, cold, creeping water, not more black or empty or cold than the world, the years, life reaching endlessly—alone!

UNDER THE PEACE TOWER

Continued from page 15

the statement of Hon. Douglas Abbott, Minister of Finance, who threatened to reinvoke controls, if profits are too high, if goods go under the counter for black market prices, if there is any monkey business with our economy. These ladies who came out of the west got fairly short shrift, it seemed to me, when in their pre-Easter pilgrimage, they failed to get controls retained. It is a question whether they would not today get a more sympathetic ear than what they did.

At long last the government is beginning to see where too rapid decontrolling may be taking Canada. In their eagerness to get off the one horn of the control dilemma, they have landed on the other horn, namely, inflation. Assuming you do accept the view that all controls should come off, as supplies grow more plentiful, what guarantee is there that the producer, now out from under, will not charge all the traffic can bear?

The fallacy seems to be exposed that we can control things only in wartime, but that in peacetime, we can let our private enterprise run wild on the bases. If we have to wait for a recession to pull prices down, that is a defeatist economy. It implies that we can only have prosperity and a good economy during the war. (You will note that no industry went broke during the war). The Chinese, who according to Charles Lamb, had to burn down a pig sty to get roast pig are kin folk to economists who say you can only control things during a war, and prices can only come down when there is a depression. In other words, we must have unemployment and hunger before things right themselves!

"Craig!"

He winced. If only she would go—go now while he was numb with wretchedness, now while he could let her go!

"Craig"—there was a whimsy lift to her voice. "Who is it that I belong to?"

HE wheeled like a man struck. "Don't torture me, Janet. Dick told me. There's no apology for me—I knew! I knew that you belonged to him."

She came closer.

Craig's breath hissed over his teeth, "Janet—please!"

"Dick told you—about the major's will, Craig? Was that it? He told you that it had all been arranged—since we were three years old? He tells everyone that, I think. But did he tell you that he—cared, Craig?"

"Janet, what are you trying to tell me?"

"He doesn't care, Craig. He's planning now on Peru—the trail of Pizarro. Dad carried all the books upstairs. Sometime, when he's old and tired and has seen everything—then, he thinks, he'll come back and find me—waiting patiently. It never occurs to him that I might—not wait!"

"Janet!" Craig's voice shook again with the old madness. "Janet—don't torment me—I'm so dog-gone miserable! Jinny girl—you do love—me—you do care?"

She laughed softly. The river laughed too, slipping under the dark piles. Even the stars laughed, winking their whimsy eyes. "Oh, Craig—you are the blindest thing!" And then, "The boat's coming!"

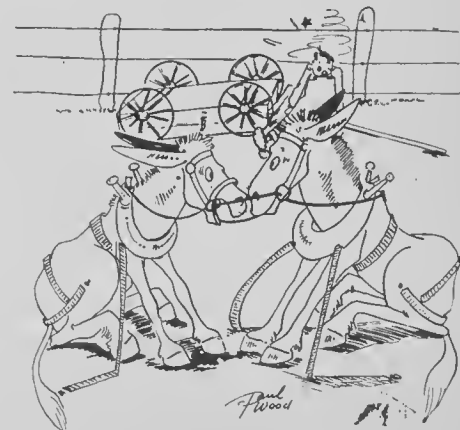
Craig laughed happily. "Darn the boat!" he said.

Well, Coldwell has adumbrated all this in his thoughtful speech. He has given Canada a lead. The government is paying some attention to these prices. I would say that they'd better. For this, at long last, is the one issue that will beat Mackenzie King.

* * *

As a corollary of all this, I have been trying to figure out what's back of the Progressive Conservatives still insisting that all controls must go. Are they so remote from the people, or are they dancing jigs to somebody's tune, somebody concealed behind a curtain? I wouldn't know. Sure tipoff was the action of the Social Crediters. Earlier, they sided with the Pro Cons. But later, in the first vote on controls, they joined the Liberals and C.C.F. in endorsing the Omnibus Bills.

What I am getting at, as far as the Bracken party is concerned, is this: with the possible disappearance from the scene of Mackenzie King any year now, the golden opportunity is thus almost around the corner to beat the Liberals. It would seem to follow that either the Conservatives or C.C.F. would be the next government. I am asking myself how the Pro Cons hope to get votes with their de-control policy? Never mind where the convictions are; where are the votes?



You're so bull-headed, Joe, sometimes you act almost human!

TELLING THE TIME BY THE STARS

Continued from page 51

of a simple form of star clock which I haven't had an opportunity to check through the changing seasons, but which he says is accurate enough for all practical purposes.

He takes as his first figure the reading of the Pole star-Caph hour hand, not against the star clock shown, but the ordinary clock dial held against the northern sky. Double that number. To this he adds the month of the year, January, 1; February, 2; and so on through the year and doubles that number also. The total is then sub-

tracted from $41\frac{1}{2}$. The answer given is local time. As in the former case if the answer is higher than 24, subtract 24 from it to arrive at local time.

For example let us suppose that you are looking at the heavens on March 15 and Caph is directly under the Pole star. Your hour hand points at six o'clock on a watch dial. Double that number is twelve. March is the third month; double that number is six. 12 plus 6 equals 18. Subtracting this number from $41\frac{1}{2}$ will give $23\frac{1}{2}$. Local time will therefore be 11:30 p.m.

Mr. Coats says that this method of telling time by the stars has been put in a short verse which he has seen printed in a Canadian publication, but which he cannot now recall. If any Guide reader can recall this verse we would appreciate receiving a copy of it.—P.M.A.

A Fisher in Action

Thirty pounds of sinew and fury mounts an all-out offensive

By CLARENCE TILLENIUS

WHEN The Guide asked me to illustrate Jim Kjelgaard's story, "Big Red," which deals so largely with wild animals and life in the woods, I availed myself of a long standing invitation from W. O. Douglas, manager of the Hudson's Bay Company fur farm at Bird's Hill, Man., to make whatever sketches I wished of the many wild animals kept there.

While I was sitting by a cage making a sketch of a fisher for the illustration which appears on page 10 of this issue, one of the keepers came up. "That's one of our biggest fishers," he said, "weighs over 35 pounds."

"Seems friendly," said I.

"Hah!" said he, "That's what you think. Let me enlighten you. A few years ago, when he was younger, I went in to clean his cage one day, after pushing his nest-box door shut and, as I thought, locking him inside. However, he was hiding in a tunnel dug under his box and as I stooped to pick up a dish he was out like a flash and at my throat. I struck at him with my fists and tried to reach a steel bar which I had dropped beside the pen door as I came in. Kicking and striking at him with fists and feet, I tried to reach that bar, but it was no use. He was as quick as a rubber ball. Sometimes I caught him a blow which knocked him clear across the pen, but before I could stoop to grasp the bar he was back like a coiled spring, leaping at my face, hissing and growling, and I could do nothing but straighten up and strike at him.

"I was bleeding badly and nearly exhausted when he suddenly flashed in, got his teeth in my kneecap and bit through to the bone. I pulled loose, but now for the first time I began to fear I would weaken and be pulled down before I could reach the bar. I was ripped and gashed all over, but the worst was my kneecap and a fearful bite above the heel which just missed severing the tendon.

"Suddenly he sprang again. I struck

down with all my force; my fist caught him over the nose, and he fell to the ground stunned. I fell on him with my knees and heard his ribs crack. The blood spurted from his nose and mouth and he went limp. Dead, I thought, and struggled out of the pen door which another keeper had opened. As I closed the door, I looked back at the fisher—to see him suddenly come to life and leap at us. We slammed the door and he seized a strand of the heavy cage wire and pulled it into a V. It was something to see. The fisher, snarling and hissing, was blind with fury. He raged and tore with splintering teeth at the wires while the blood frothed from his nose and mouth.

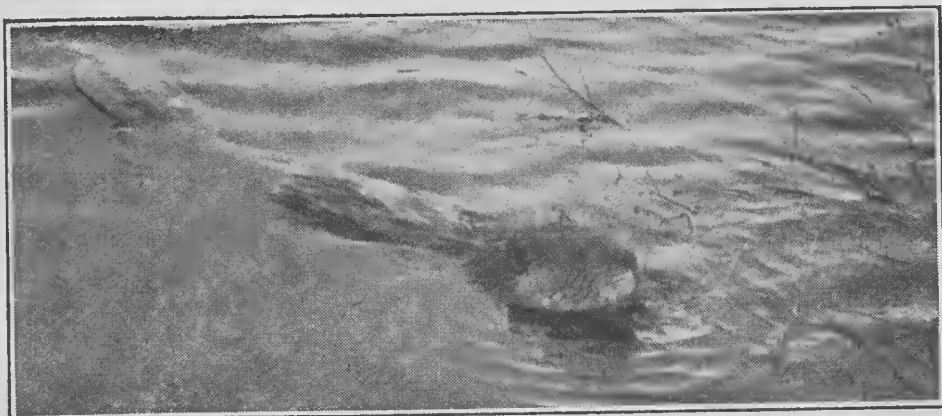
"At that time I did not know the unbelievable toughness of the fisher, and next afternoon when I limped around the fisher pens to feed them, I fully expected to find him dead. No animal, I thought, could survive such an injury, for I had distinctly heard his ribs crush in under my knees as I went down on him.

"Well, believe it or not, when I came up with my pail of meat, there he was, jumping up and down, eager for his dinner. I threw him a chunk of meat; he ate it, and since that time we have been good friends, and I have a great respect for fishers."

"Ah," I said, judiciously removing my stool a few feet farther from the wire, "I suppose you held a grudge against him though."

"No," he replied, "He was only doing what is his nature. Ask Mr. Douglas—he will tell you that no good animal man ever ill-treats an animal for being savage. You simply try harder to make them understand that you are their friend."

"Well," I said, suddenly catching the fisher's beady eyes fixed on me, "I am his friend too, but as I fear that he has not fully grasped the idea, maybe you wouldn't mind looking at the lock on that door again before you go!"



Brother Beaver gathers a few choice bits of willow.



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When writing to Advertisers please mention The Guide

Lo, The Poor Fish!

Government fish hatcheries annually rear large numbers of fish for the restocking of lakes and rivers and the satisfaction of two-legged and other predators



[Photos Don. Parks Branch.]

Scenic location of the Waterton Lakes fish hatchery.

MAN is a voracious, omnivorous, domineering and quarrelsome animal. Because one of the earliest promises in Holy Writ offered "Dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moves upon the earth" we have accepted cheerfully the additional injunction to "Be fruitful, and multiply, and replenish the earth and subdue it." This last we have gone about cheerfully and with vigor, denuding thousands of square miles of land of their forest growth, draining the fertility of millions upon millions of acres of land and disturbing the balance of nature by uprooting vast areas of natural animal pasture and killing off the animals, as we did with the buffalo.

Of course all this licentiousness catches up with us in time. Take the poor fish in our lakes and rivers. We have polluted our rivers and fished out our lakes to the point where natural increase no longer maintains abundance. Our ingenuity and our superior intelligence has therefore been applied to the artificial rearing of fish for restocking purposes. This is part of what is called conservation of natural resources. The phrase, of course, is a misnomer. What we are really doing is attempting to re-develop natural resources, after having once wasted them.

ALL this is but a prelude to an account which we hope readers will find interesting, of a visit to a fish hatchery maintained at Waterton Lakes by the Lands, Parks and Forests Branch of the Department of Mines and Resources. Superintendent G. E. Bailey pointed out that the hatchery serves only the Waterton National Park at the present time. When originally established in 1928, it served an area of approximately 5,000 square miles, whereas the park itself is only 220 square miles. There are, nevertheless, about 20 lakes within the park boundary, a number of which are not easy of access and lie at an altitude of from 6,000 to 7,000 feet.

Prior to 1928, Mr. Bailey informed us, only three or four of the lakes had fishing, but as a result of the stocking which has been going on each year, excellent angling is now available in all of them. From one to 1½ million fish were distributed annually in the earlier years, after the hatchery had got nicely started and before the provinces secured control of natural resources. Some salmon trout are distributed, but emphasis is placed on game fish, such as the rainbow and cutthroat trout. The latter are used exclusively in the higher lakes, and are transported on pack horses, each carrying 3,000 fish in rec-

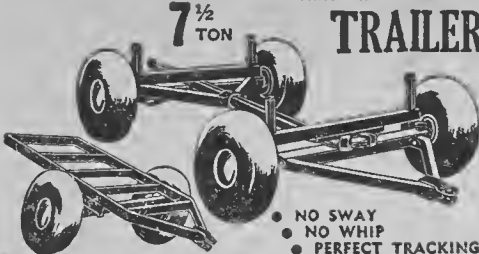
tangular cans. One of the higher lakes can be approached by a long or a short way. Several hours are saved by the shorter way, but it means climbing a 600-foot cliff along a goat track. Where pack horses cannot go, of course, the backs of men must be used to get the fish distributed. In the lower altitude lakes, the rainbow trout and the eastern brook or speckled trout are used, as well as some whitefish, and salmon or lake trout.

MOST of us have at one time or another heard the rude phrase, "Go lay an egg." As applied to the artificial rearing of fish, it is not so farfetched. The reason is this. To get, say, a hundred thousand fish, the hatcheries need to obtain considerably more than a hundred thousand eggs. Fish, however, are not domesticated, and they will not crawl into nests like hens to lay them. Fish eggs also must be fertilized by the male after they are laid. Consequently, the hatchery experts have had to find ways of short-circuiting nature to some extent.

What happens is that: because trout, for example, like swift water, the hatchery men set traps in the mouths of creeks, and select a place where there are small pebbles in large numbers, varying in size from peas to walnuts. The fish enter these traps as they are going out to spawn. Retaining pots are set, by which the fish can be caught and the males and females separated. Under natural conditions, the female creates a nest or "redd" in small gravel. In this redd the eggs are laid and buried. Rooting with their noses and working with their tails, comparatively small fish can move a surprising amount of gravel in water. Mr. Bailey affirmed that he had seen a single small 10-inch fish pile up nearly enough gravel to fill a wheelbarrow.

When the eggs are laid, the male rests over them, fertilizes the eggs, and drives off the young fish, all of which, of course, are cannibals. Trout eggs are nearly all pink in color, while pike, sucker and whitefish eggs are smaller and white.

FOR hatchery purposes, the natural method isn't satisfactory, so after the fish are caught and separated by sexes, it is necessary to wait until the female fish is "ripe" or ready to spawn. These are then dipped out of the net, and a spawn catcher, dressed in slicker and rubber boots, with a small pan fixed on a spawning stool, and wearing a woollen mitt on his left hand, grasps the female by the tail and gently squeezes the eggs into the pan. Since the artificial rearing of fish is called pisciculture, the spawn catcher therefore becomes a sort of piscatorial midwife. He must, however, do double duty, per-

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• **HEAVY DUTY** construction. Chassis all electric welded throughout.

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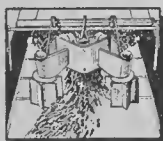
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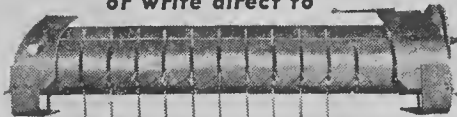
Innes has patented features no other pick-up can imitate. Its exclusive piston action picks up the windrow as cleanly and gently as if by hand. 30 to 40% lighter, it can be attached or removed by one man in a few minutes. No need to remove sickle guards. Innes automatically strips itself of weeds and vines, so will not wrap or clog. 38 models, to fit any combine, for all windrowed crops.

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forming somewhat the same function for the male, whose milk is extracted in much the same manner and used to fertilize the eggs artificially obtained.

Once separated from the female, the eggs are allowed to steep for 20 to 30 minutes in a pail of clear water. This hardens them and makes for a higher percentage of hatchability. Mr. Bailey thought perhaps that only five per cent would hatch under natural conditions, whereas losses in the hatchery might be very low.

Thirty-six hours after the eggs are put into the hatchery they enter the "tender" stage, which lasts until the eye of the young fish shows. During this tender period, the eggs must not be disturbed. At Waterton Lakes it takes about three weeks until the eye shows, and about one month to hatch. Temperature of the water governs the entire development of the egg and fish. Waterton water averages from 42 to 48 degrees in temperature.

AFTER hatching, the young fish are not very mobile, because they carry a large and proportionately heavy yolk sack, which it takes them three weeks to absorb. By this time they are strong enough to swim, and can leave the bottom to hunt for food. The hatching and rearing takes place in long, narrow and comparatively deep troughs of running water. Each trough holds from 25,000 to 40,000 young fish, which are later graded into three sizes as necessary, and held until they reach the yearling stage.

They are fed beef liver, with a percentage of fish flake and prepared concentrate which includes eggs, dried milk, soybeans and other items. As they approach the yearling stage, as "rising yearlings," they are weighed each month. This is done by a sort of dip-net or pan, which is used for dipping, counting and weighing about a thousand fish. After this the whole lot is weighed and the actual count estimated.

Older fish are carried over winter in much wider and larger tanks, eventually being held outdoors in wide troughs set into the ground and covered with heavy iron netting and slats, to keep the kingfishers and small predatory animals away from them.

Like all other animals, fish have their illnesses. Like many small boys they have stomach troubles. They are also prone to a gill disease and, we suppose, a number of other complaints not enumerated. For some of these troubles the fish are dipped in a mild solution of copper sulphate. For other troubles, they get calomel in their feed, while once a week they get a bath in a five per cent salt solution.

Presumably, by these or fairly similar methods, the numerous fish hatcheries established to maintain the fish population in our lakes, creeks and rivers are operated by governments at comparatively small expense. Buildings and equipment are not costly, operating expenses cannot be very heavy, and it would appear that a large number of fish can be reared annually in a comparatively small building.—H.S.F.



Fish hatching and rearing troughs.

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A Hermit Owns This Museum

Hundreds of curious, natural or nearly natural objects are maintained in a museum on Vancouver Island by a man who calls himself "The Hermit"

IT is easier to read of hermits who lived in times past, than to find them today. Nevertheless, they do exist, although I must confess I have only met one man who so called himself.

It was a unique and most interesting experience, not only because I can now say I have seen and talked with a hermit, but also because I obtained a new slant on the many different ways by which people in modern, civilized society can obtain a living.

It is claimed that about two-thirds of all the people in the world make their living from the soil. I wouldn't know how to classify The Hermit in this story, but perhaps he can be classified as a farmer, too, since, from his own woods and the surrounding countryside he has produced a crop of the most interesting objects in quantity that I have ever seen.

I saw him last summer, when a companion and I were driving inland from Qualicum Beach on Vancouver Island. We were going through a fairly well wooded section of the road, and there suddenly appeared in front of us a large wooden sign containing a long message for the passer-by. The message said that we had reached the entrance of the Museum of Natural Art, in which was to be found many of the wonders of nature too numerous by far to mention and too astounding to be described. If we wanted to go in and just drive around, it would cost a mere token payment—I think five cents—but if we wanted to enter the Museum where we could see and talk with The Hermit, it would bring the cost up to a quarter. What intrigued me was that the message was signed by "The Hermit," so we entered forthwith.

The road led into the woods and wound around here and there for no great distance until we came to a sizable open space, the central feature of which was a neat log building, tidily enclosed within a pole fence and ornamented outside by artificially shaped trees and other objects. The general outline of the place was fittingly rustic. We had little time to look around, however, after arriving opposite the building before we were approached by a man of very striking appearance—The Hermit himself, no less.

Dressed in ordinary, heavy shoes, work-a-day trousers and a loose, short-sleeved shirt, his striking appearance was derived more from his whiskers and his straw hat than anything else. His hat was wide-brimmed, with one side rolled up and the other flattened out toward his shoulder. He wore a moustache of moderate thickness but droop-

ing and quite grey. His hair was worn quite long, and his whiskers, also grey, were long enough to hide his collar, and somewhat resembled a Vandyke beard. The beard was divided, with one part pointing toward his right breast and the other toward the left.

He came briskly to us. Learning that we wanted to go through the Museum, he collected our fee, opened the gate and preceded us into the log building, which he said he had constructed himself over a period of three years. Inside, the building was not particularly large, and was divided into six rooms, each of which was cluttered with all sorts of unimaginable objects, which thickly crowded the walls, small tables, sometimes the floor and occasionally the ceiling.

He told us that he had bought 45 acres of land where the Museum stood, and that he had obtained hundreds of the Museum objects while wandering through the woods picking up bits of wood, or roots, or cutting off branches here and there, which his imagination fancifully told him resembled animals, or human faces. These he would bring back to the Museum, and with the aid of a little knife work here and there, or stain, he would assist Nature to reveal her fancies and produce a Museum object. A large branch or root, sawn crosswise, would reveal cracks or lines in the wood in the shape of a beautiful young lady. Perhaps a root would be twisted in the shape of a duck's head, in which case he did what he could to preserve the illusion without making his own effort too noticeable.

Outdoors his efforts were also apparent. The entrance to the Museum was marked by larger wood objects of strange shapes and design, and he let you out of the gate as you left, by operating a contraption from within the yard, which opened the gate and closed it again after you left. In this respect, he reminded me of a shoe cobbler who lived in our Ontario village when I was a boy. This man would sit at his last, and with the aid of a maze of ropes and pulleys, would open and close every door or counter-lift in the building.

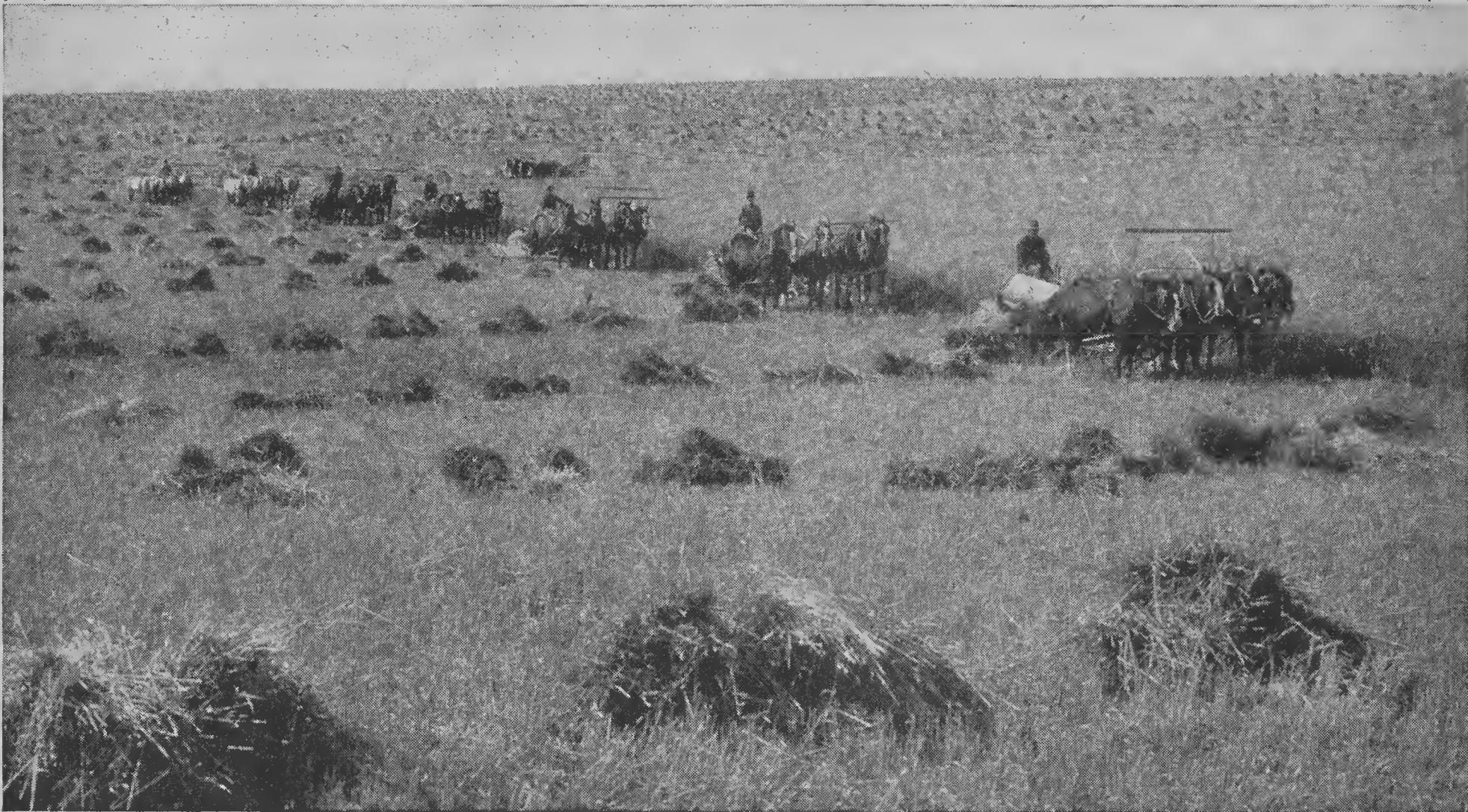
Well, that was The Hermit. I expect he stays pretty close to the Museum during the summer months so as to lose as few quarters as possible. Occasionally, he informed us, he locks the place up thoroughly and goes to the City, probably Vancouver, for a week or two. No doubt it is a pleasant life if one likes it, and since there are not too many people like him in our society, we can leave him comfortably to his Museum of Natural Art.—H.S.F.



The Hermit outside his Museum of Natural Art.

[Guide photo.]

"Remembering When"



"Remembering When" is the old-timer's privilege.

To remember back to the days
when scenes like the above were a common sight
on big western *grain farms* brings
many interesting recollections.

● Among these recollections is the founding of United Grain Growers Limited, the farmers' company. Four decades ago, amid the turmoil and conflict of the farmers' fight for improved conditions of grain marketing, U.G.G. was founded upon the principles of the Rochdale pioneers . . . its objective: "Service to the Farmer."

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Our Gag Artists

Thumbnail biographies of the men who do the funny cartoons in your favorite magazine

R. H. Helmer

I WAS born in Summerland, B.C., in 1913. My first cartoons appeared on the sides of pumpkins being grown as prize specimens by the Experimental Farm. My art career was discouraged at this early age, and my cartoons rejected.

It wasn't until I went to high school in Merritt that my cartoons appeared again, this time in the back pages of history and geometry books. These likewise were rejected by the principal.

I then moved to Milner and took up bush whacking, but the bush grew as fast as I cut it down. I decided I would try cartooning again. This time I found someone who appreciated my art. Editors must be nearly as queer as cartoonists.

Then came the war and five years in the air force. Two years of this time was spent overseas; half of it as an air gunner, and the other half in hospital getting over it. At present I am building a house out of sods and old fence rails due to the lumber shortage. I am married and have two young sons whom I hope to have do the interior decorating.

Martin Filchock

I WAS born and bred in Grindstone, Pennsylvania, a little rural village in the southwest corner of that state. I was forced to quit school at an early age to help support a widowed mother, four brothers and two sisters. My first job was with a railroad where I worked as a boilermaker's helper, until furloughed. During the depression I tried numerous jobs—laborer, truck driver, sign painter, farmer and even served one year in the civilian conservation corps!

While visiting in New York City in 1937 an editor of a comic magazine saw some of my sketches on a scratch



"She's not a friend," says Mr. Filchock. "You know how it is. They all like to be photographed."

pad. He suggested that I try drawing cartoons! He liked my first efforts very much and my cartooning career was launched. Incidentally I never studied cartooning or art. My art training consisted of pictures drawn on the back of my homework in grade school.

I freelanced until I entered the army in 1942. I served with the Eighth Army



Fickle inspiration visits the Helmer household

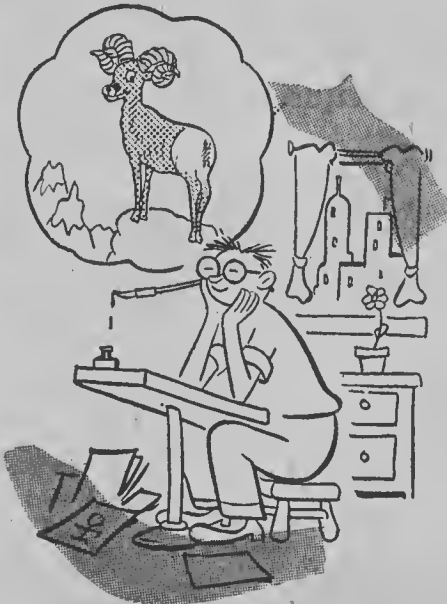
Headquarters and had the good luck to visit New Guinea, Philippines and Japan! I was discharged early in 1946. I have taken up residence here in New York City but I still prefer the country. I make frequent trips to my home to fish, hunt and trap. My secret ambition is to visit Canada—make a trip over the Alcan Highway and hunt the stone sheep in the Mountains of the Gods.

Paul Wood

HOW does one get into this "monkey" business we call freelance cartooning? Contrary to popular thought, this "squirrel food" business is very serious. It takes a heap of thinking before you can call it a success, but it's fascinating and once you're in it, you can't leave it alone.

I was born in the little town of Petersburg, Illinois, back in 1906. After twelve years my family moved to a farm in Missouri where I finished growing up. During this time I completed my high school and college education. I've always had an "itchy" finger whenever there was a pencil in sight. In school, I left my mark for posterity on the flyleaves of most of the text books. My teachers weren't too sympathetic towards this sort of thing, in fact, they, at times were downright hateful about my masterpieces.

I never really considered comic art as a profession until after my marriage in 1933. My wife insisted I take a correspondence course in cartooning. Upon its completion I started sending my work to different publications. I've been at it ever since. I am my own gag man; that is, I think up all my situations and tag lines.



Mr. Filchock's dream of Canada

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● *Wherein we continue the exposure of the foibles and fancies of our funny men.*

George Ray

PROFESSIONALLY George Ray is a home-bred for he took his first steps in the business under The Country Guide roof. Since then George has become a commercial artist. You know what that means. The legs of his debutantes are five times the width of their shoulders and shockingly displayed to show the beauty of Rosenblatt's stockings. His athletes have exaggerated biceps to show that O'Grady's beer is harmless. And you'll never believe how attractive a casket can look till you have seen one of his color ads for Morte and Dunn. George likes to do comic cartoons so that he will not lose complete touch with the realities of life.

Mr. Ray is also a home-bred by origin. Born in Winnipeg, his mother took him at the tender age of two months to their home at a lonely Hudson's Bay Post in the far north. He still speaks Cree, for he did not leave the bush till he was 19 years old. His art training was supposed to have been completed in Chicago, but as he has subsequently acquired four youngsters he is only on the threshold of another training in art.



George Ray

still live in a small Alabama town and have never been within 600 miles of my leading markets. Incidentally, I never saw my art instructor; I took a course by mail.

Many ideas come from gag-writer wife, from reading and from observing the neighborhood fowls and animals—not to mention antics of two Paris youngsters.

Alex Wishart

HERE is a rash fellow. Barely turned 30, with the usual complement of features, a good physique, and he dares to boast that he is single! Alex. Wishart lives in the small Manitoba town of Starbuck. He started to draw when he was knee high to a can of sardines. Got his first job of cartooning from the town butcher, and sold his first gag to The Country Guide. His hobby is cross-word puzzles, and his chief hate is against corny jokes, including his own. Questioned about his art efforts during his 30 months in the army Alex. states that he rarely got beyond painting signs: Out of bounds—out of bounds—out of bounds; officers only—officers only—officers only, and a few other subjects he cannot now remember.

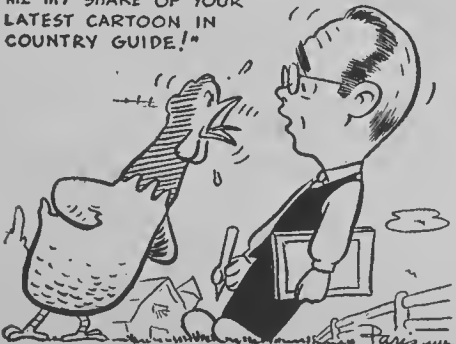


Howard L. Paris

IFIRST learned the difference between a singletree and a lonesome pine when my parents moved to the country when I was 13. The years that followed left their indelible mark upon me. And possibly my indelible pencils left their mark upon the years, for there wasn't so much plowing and woodchopping but what there was time for sketching—and I wanted to be a cartoonist.

The realization of my ambition was preceded by miscellaneous jobs on newspapers, including a country weekly. I

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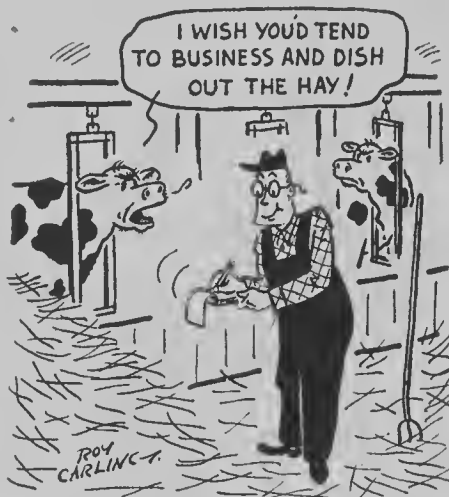


Roy O. Carling

IFIRST became interested in cartooning back in my high school days, when I took a correspondence course in the subject. Later, I attended Chicago art schools for two years, and it was here that I really learned the freelance cartoon business.

Some six years ago we left Illinois and moved to our farm in Michigan, where I became and still am a rather odd combination—a farmer cartoonist. We have chickens, a growing dairy herd, a tractor, and quite a collection of farm implements. Our aim is to build up and conserve our soil; thus we intend to keep most of our rolling 80 acres in hay and pasture crops.

Since turning farmer, I specialize in rural cartoons, getting many an idea from my daily rounds, and am apt to stop in the midst of most any chore to jot down an idea that hits me. The question most people ask is, "Where



do you get your ideas?" A lot of study and much practice is the answer—in other words, idea No. 1000 comes a lot easier than No. 1. I have had around 800 drawings published in U.S. and Canadian periodicals. As hobbies, I enjoy reading and playing the guitar.

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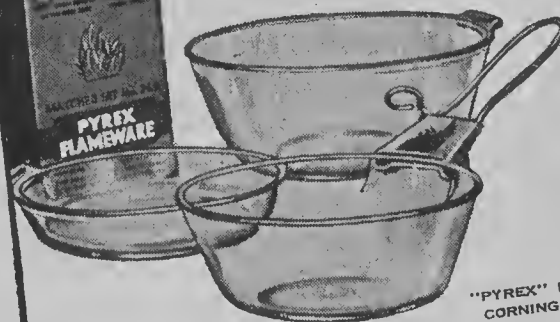
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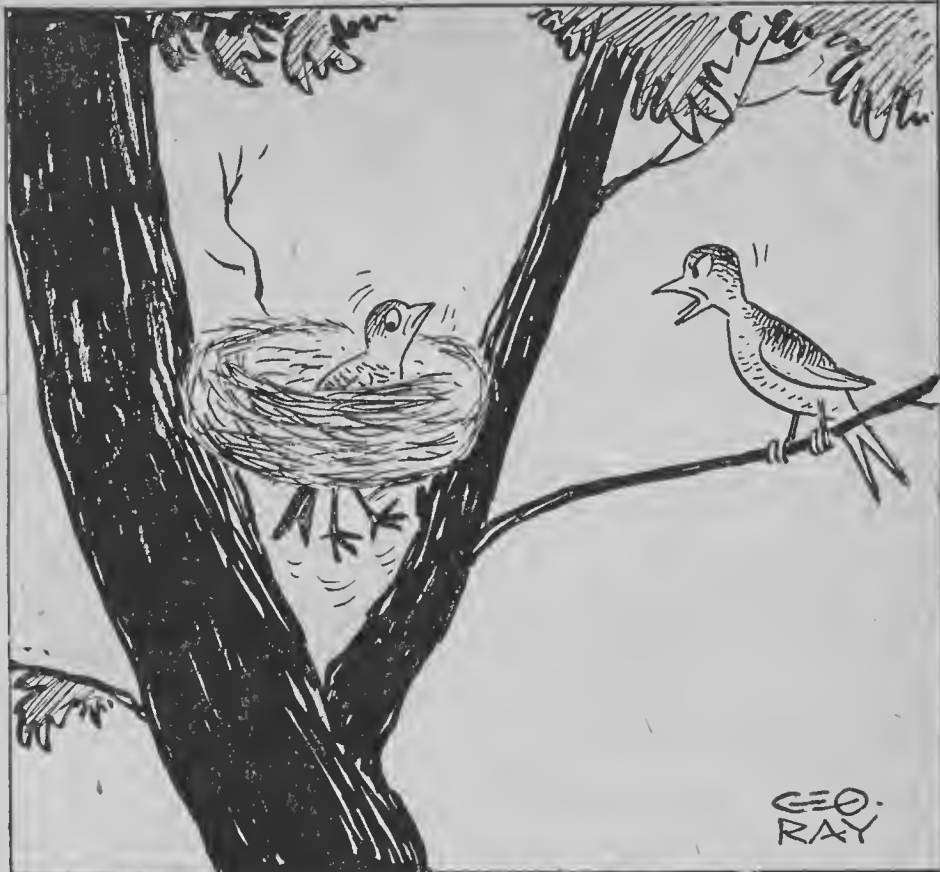
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"You shouldn't stamp your foot when you get mad!"

BIG RED

Continued from page 11

Danny flushed, and his face set in stubborn lines again. Maybe Ross thought he couldn't make a partridge dog out of Red. He'd show him! He'd prove such a dog much more valuable than a hound, and every bit as practical. But proving to Ross that any partridge dog was worth the food he ate wasn't going to be any easier job than moving Staver Plateau with a toy tin shovel.

After supper Danny sat by Red for a while, stroking his ears and tickling his chin. But Ross ignored the dog completely. And, as though he understood, Red had nothing to do with him.

PARTRIDGE season and the first snow came together. Ross, as usual, was up long before daylight and away on his trap-lines. When Danny went out with his shotgun and Red, he looked longingly at the tracks in the snow. Always before, he and his father had gone trapping together. Resolutely he shouldered his gun and walked in an opposite direction, toward the pine and hemlock thickets where the partridges would certainly seek shelter from the snow.

They approached a thick growth of hemlock, and Red ranged ahead. He came to a stiff point, and Danny edged up.

A partridge burst out of the hemlocks, showed itself for a split second between the branches, and Danny shot. A ruffled heap of brown feathers, the bird came down in the snow. Red hesitated, looking around at Danny as though asking for instructions. Danny waved a hand forward.

"Go on," he said. "Get him."

Red padded forward, and stood uncertainly over the fallen partridge. He looked up, and back at the bird.

"Give it to me," Danny said gently.

The setter lowered his head to sniff the partridge, and grasped it gently in his mouth. Danny took it in his hand. He threw it down in the snow and Red picked it up again. They went on, and Red pointed three more grouse, which Danny shot. The last one, though Red went about it in an awkward fashion, he picked up and brought back. His tail wagged furiously and his eyes glistened at the lavish praise that the feat called forth from Danny. But four birds were the limit.

Danny arrived home first that night, and had supper ready when Ross came in. Ross had no furs, as he had set his traps only that day, but he opened his hunting jacket and took out four partridges. He laid them on the table, and turned silently away to remove his coat and wash his hands.

Danny's cheeks burned. Ross had had no dog. And every one of the four partridges had been shot through the head with the little .22 pistol that he sometimes carried on his trap-line visits.

The partridge season wore slowly on, and by the last day Danny knew that his hunch had been the correct one. Red was not only a partridge dog, but he was a great partridge dog; one in a million. He found the birds and pointed them so carefully that only the wildest ones flushed before the gunner could get his shot in. It had taken him only nine trips afield to learn perfectly the art of retrieving. Regardless of how thick might be the brush or brambles in which the bird fell, Red would find it. And, though he had hunted every day, Danny had not yet lost a wounded bird. Red paid no attention to the rabbits that scooted before him, or to the chattering squirrels that frisked in the trees. And, when he hunted, no scent save that of partridges drew the slightest interest. Now, on this last day of the season, he and Danny were going out for one last hunt.

Ross, as usual, had already gone, and a few flakes of snow hovered in the air. Little wind stirred and the naked trees were silent. But the blue-black horizon and clouded sky foretold a heavier storm to come. Danny went back into the shanty and buttoned a woollen jacket over the hunting shirt he already wore. He dropped half a dozen twelve-gauge shells into his pocket.

"Goin' to be weather, sure enough," he murmured. "Winter's nigh here, Red."

The hard little snowflakes rustled against the frozen leaves, and it seemed to Danny that they were falling faster even before he came to the edge of his father's field. But he forgot them then because Red came to a point. Steady as a rock, he stopped just a little way within the woods. Danny flushed the bird. It soared up and out, dodging between tree trunks and twisting about. But for one split second it showed through the crotch of a big beech and Danny shot. The bird dropped to the ground and Red brought it in.

They went on, deeper into the beech woods where they had found so many partridges. But Red worked for an hour

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before he pointed another, and that one flushed so wild that Danny had no shot at it. It was noon before he killed another, and at the same time he awoke to the necessity of getting back to the cabin before he had trouble finding it. The snow was falling so fast that the trees were only wavering shadows. And there was a rising wind, which meant that the heavy snow would be accompanied by a gale. Danny snapped his fingers.

"Here, Red."

The dog came in reluctantly. His ears were flattened, and his tail hung dejectedly. He knew as well as Danny that they should have killed four birds. And he considered it his fault because he had found only three. Hopefully he started once more toward the hemlocks. But the boy turned toward the cabin.

The wind whipped his clothing about him, and drove snow into his eyes. He bent his head and turned his collar up. There was a foot of snow on the ground, and all open places were drifted waist-deep. Red stayed behind, following the trail Danny broke, and floundering through the drifts.

IT WAS nearly dusk when they reached the cabin. Danny opened the door, stamped the snow from his feet, and sank into a chair. Red crouched full length on the floor, looking at Danny from the corners of his eyes. The boy grinned, and went over to pull his ears.

"Wasn't your fault, you old fool," he said affectionately. "You found what there was to find."

Red leaped happily up and went over to sit beside the door. But Danny took his jacket and hat off, and draped them over a chair. He started a fire in the stove, and shook his head.

"Nope. Not again. We got all we had comin', anyhow. There's a passel of canned partridges in the cellar as'll come in handy if vittles get scarce."

Red returned to his place on the floor and lay disconsolate. Danny cut thick slices from a ham, and peeled a great pot full of potatoes. Ross would be hungry after bucking the storm, would want good things to eat and plenty of them. But Danny worked with deliberate slowness, trying in the accustomed routine of household chores to still the small worried voice that was crying within him. Ross should have been home before this.

He went to a window and peered into the inky blackness, fighting back a rising panic. This was no time to lose his head. He waited another ten minutes.

Then he made up a pack: a thermos of coffee, enough food for three days, a knife and axe, plenty of matches, and two woollen blankets. He put on his warmest coat, pulled a felt cap down over his ears, and took his snowshoes from the peg on the wall.

With a happy little whine and a furiously wagging tail Red sprang up to join him. Danny looked at him. The dog could not be of any use. He would hunt only partridges, would pay no attention to Ross's scent, even though they passed within ten feet of him. Danny shook his head.

"Reckon not, Red. This here's one hunt I got to run alone."

Red flattened his ears, and begged mutely. Danny looked away and back again. Red wouldn't help any. But he would be company, and certainly could do no harm.

"All right. C'mon."

Danny went outside, and Red waited impatiently in the snow while he took a toboggan from its elevated platform. When Danny started off through the night, the dog ran a little ahead. Danny watched him work carefully toward a briar patch, and grinned wryly. Red was still ashamed of his inability to locate more than three partridges, and was trying to make up for it.

The snow was drifting down in great feathery flakes that dropped softly to

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earth. The wind had abated and it was not as cold as it had been. But if Ross was helpless, he could freeze. Danny put the thought from his mind and plodded grimly on. Lately, he had scarcely spoken to his father, but he still knew where to look for him. Last night Ross had brought in two muskrats and a mink, pelts that could be trapped only along waterways. Therefore he must have run the traps in Lonesome Pond. Today he would cover the fox line on Stoney Lonesome ridge.

But, even though he would search until he found his father, Danny was aware of the near hopelessness of his mission. If Ross was lying unconscious, after having been caught in a slide or struck by a falling limb, the snow would cover him, and he might not be found until it melted. Danny clenched his fists and tried to drown the thought. Ross was too good a woodsman to have such an accident. But, Danny admitted, nobody was too good at anything to guard against unforeseen accidents. It was just as well to face possibilities as to close his eyes to them. He must be ready for anything.

Red came trotting happily back, and was away again. As Danny dragged the toboggan up the long, steep trail his father took to Stoney Lonesome, he looked down at his feet. They seemed barely to move. Yet he saw by a dead stub beside the trail, that served them as a landmark, that in an hour he had come almost three miles. That was fast travel in deep snow when a man had to drag a toboggan.

It was too fast. A quarter of a mile farther on Danny stopped to rest. He panted heavily, and sweat streamed down his face and back. He took the felt hat off and opened his jacket. Red returned to stand anxiously beside him.

"If only I'd taught you to hunt men instead of partridges," Danny half sobbed. "If only I had!"

He turned to go on. Ross had to be somewhere, and he was as likely to be near the trail as anywhere else. But if he wasn't, his son would go to all the traps, and from them he would branch out to scour every inch of Stoney Lonesome. Ross couldn't die. Why, there would be hardly anything worth while if it wasn't for his father. That foolish quarrel over Red! Danny should have let him hunt varmints or anything else Ross wanted. If only he could talk to his father just once and tell him how sorry he was!

Danny stumbled, and sprawled in the snow. He rose, angry and shouting. He had fallen over Red, who had come to a point in the trail.

"Go on!" Danny snapped.

Red took three uncertain steps forward and stopped again. Danny rushed angrily toward him. He reached down to grasp Red's collar, but the toes of his snowshoes crossed and he stumbled forward again. His bare hands plunged deeply into the snow. They hit something soft and yielding, something that gave before them. It was a man's trousered leg. Danny dug frantically, and lifted Ross Pickett from his snowy bed. His hand went under Ross's shirt.

His father was warm and his heart still beat.

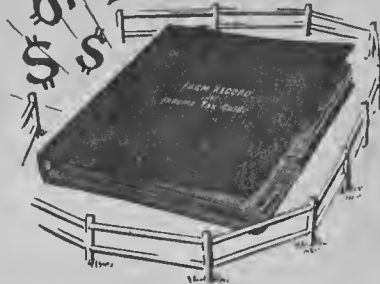
THE next day, back at the cabin, Danny served his father two roasted partridges and a great heap of mashed potatoes. He propped Ross up on pillows, and grinned when his father began to wolf the food.

"For a man as should of been dead, you're sure hungry," he observed. "How come you can eat so much?"

Ross grinned back. "Can't kill an old he-coon like me." He tore off a great strip of breast meat and held it up in his fingers. "Come here, Red. Come here and have some vittles."

Red padded daintily across the floor, and his wagging tail thanked Ross for the offering. Danny's eyes shone, be-

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cause the two things that he loved best now loved each other. Ross looked at him.

"'Twas a mighty lot of foolishness to fight over the dog, wasn't it? But even if I hadn't got over my mad, like the mule-head I am, and was waitin' for you to say somethin', I sure would know what a pointin' dog is now. When that old trail give way beneath me I thought I was a cooked goose for certain. How come the dog found me, Danny?"

Danny said soberly, "Red found you on account he's got a better nose than any hound dog."

It was the first lie he had ever told his father. But it was more evasion than lie. Red was a partridge dog through and through. And, when he had pointed there in the snow, he had pointed not Ross, but the two partridges Ross had shot and put in his pocket.

THE next morning Danny and Red ran the traps in Lonesome Pond, and brought back two muskrats and a mink. Ross was sitting in front of the stove, bent over. He straightened up, revealing a red flush in his cheeks and dry, cracked lips. Ross tried to get up, and caught the back of the chair. He spoke with forced casualness.

"How did it go? Did you take some pelts, Danny?"

"Two 'rats and a mink. You're sick, Pappy!"

"Me!" Ross scoffed. "I ain't been sick in twenty years!"

"Well, you are now." Danny left his fur-laden coat on the porch. "Come over here, Pappy."

Ross said stubbornly, "I'm not goin' to bed."

"Now you just quit actin' like a two-year-old and use your head!" Danny scolded. "What good's it goin' to do if you get yourself pneumonia?"

"Aw, it's a foolishness."

"Sure!" Danny said sarcastically. "A man as has laid under a snowdrift for five or six hours shouldn't ought even to feel it. Get in bed, Pappy."

"Oh, all right! I'd rather than have you jawin' at me!"

Ross took off his clothes and crawled into bed. Danny felt his hot temple, then took from the cupboard a quart bottle of whiskey that had stood there unopened for five years. He broke the seal, poured a water glass half full, and filled the glass with hot water.

"Drink it," he commanded.

Ross drank, grimaced, and sputtered. "Whew! You're either goin' to kill or cure a man, ain't you?"

"Stay covered," Danny ordered. "If you're not better by the time two hours has gone, I'm goin' to call Doc Smedley."

"It'll cost you twenty-five dollars to get him 'way up here!" Ross protested.

"I don't care if it costs two hundred and fifty," Danny said. "We can't have you sick."

"It's a foolishness," Ross mumbled. He settled drowsily down in the blankets. "John Allen was here. He wants you should help him get his cows out of those grass meadows up on the plateau. I told him you'd help. He'll give you a quarter of beef for the helpin'."

"I—I can't help him," Danny protested.

"Why not?"

"I got to run the Stoney Lonesome line come mornin'. Deer season opens next day, and I got to get us a buck for winter meat. Next day I got to go back to Lonesome Pond."

"Stoney Lonesome'll wait," Ross said. "It's mostly a fox line, and there ain't goin' to be too many foxes runnin' for two-three days after that storm. You help Allen in the mornin', get your buck next day, and go up Stoney Lonesome the day after if you have to. Course, I think you won't have to on account I can go up myself by then."

Danny said severely, "You're goin' nowhere until you're well. But I'll help Allen anyhow."

Danny pelted the muskrats and the mink, skinning them carefully and stretching them on boards that were exactly suited to them. Furs were much more valuable if they were properly handled. He inspected his work critically, and went back into the cabin. Ross was asleep. Some of the angry red was gone from his cheeks and his forehead was cooler. The next morning he ate three soft-boiled eggs that Danny prepared for him and drank a bowl of warm milk. He got out of bed to sit in front of the stove, while Danny fumed.

"You fuss like an old settin' hen with sixteen chicks," Ross observed drily. "I'd rather be up than down."

"You should be in bed, Pappy."

"Ah, I'll just set here. The minute I get tired, I'll go back to bed."

"Well . . ."

"I knew you'd see it my way," Ross smirked. "You go on and help Allen; he said he'd meet you in the meadows."

"All right. The mule's fed and the cow's milked. I'll go. But if you're worse tonight, I'm goin' to call Doc Smedley anyhow."

"Shucks. No need to do that."

"Take care of yourself and I won't have to."



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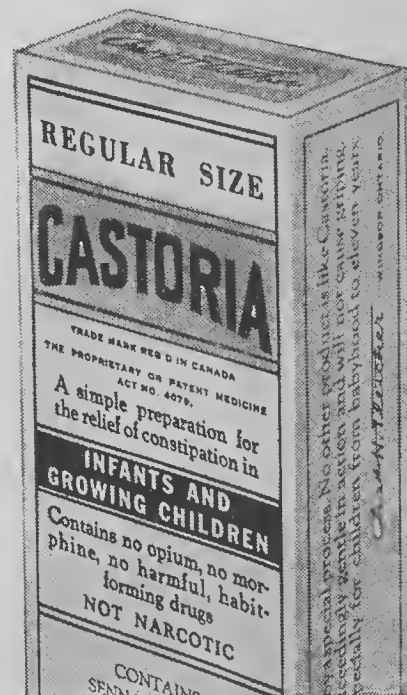
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"I'll take care of myself."

"Well, you been warned."

Danny put on his hat and coat, and with Red beside him went outside. For a time he pondered the advisability of wearing snowshoes, but the snow in the valley was only eight inches deep. Only in open places where the wind had a long sweep had it drifted. Of course it would be deeper in the uplands and on the tops of the mountains, but not much, this early in the winter. Danny left his snowshoes on their hanger, walked down the valley, and climbed the face of Staver Plateau.

A cold wind blew up the slope, and carried a dusting of fine snow with it. The snow already there was almost knee-deep, but the ranging cattle had beaten paths through it. Danny broke out of the forest into the meadows, great open stretches carpeted with wild hay and grass, and leaned against a stump. In the distance a herd of ten

cattle came out of the forest into the meadows, and turned to race back to the shelter of the trees. Danny grinned.

"There they are, Red. Some of John Allen's gentle bossies."

Every spring John Allen, a Wintapi farmer with only small acreage of his own, bought forty or fifty cattle, barren cows, calves, bulls, steers, and let them graze in these wild uplands. Every fall, shortly after snow flew, he rounded them up and sold them.

There was a hail from down the slope, and Danny looked that way. A man with a woolly shepherd dog beside him had come out of the trees into the meadow, and was toiling upward toward Danny. Red rose eagerly, and bounded through the snow to meet and sniff noses with Shep, John Allen's cow dog. Side by side the two dogs wagged up to Danny, and John Allen panted along behind them.

"Been waitin' long?" he asked.

"Not so long. What's new?"

"Not much. One of them jail people they got over at Dwindale broke prison. Have you seen any cattle?"

"I just saw ten of your wind-splitters, John. They took one look at me and kited back for the brush."

"Shep'll get 'em back," the farmer said confidently.

"What side do you want, Danny?"

"I'd as soon take the other. Give me half an hour."

DANNY followed one of the winding cowpaths around the face of the hill, went through the little strips of forest that separated the various meadows, and took a stand where the unbroken forest began again. The cow path petered out in a great area of pawed snow, where the cattle had been digging for grass. Danny climbed a hundred feet above it, and sat watching. Shep would rout the cattle from their bed-

ding and feeding places, then they would run like the wild things they were. It was Danny's job to keep them out of the forest and headed downhill. There was a wingfence there that led into a corral.

Presently he heard a dog bark, then a succession of hurried barks. Ten minutes later a little grey bull with a dozen cows and calves behind him came racing along the path. Red pricked up his ears, and Danny ran down to stand in the path. Seeing him, the bull braced his feet and stood with lowered head. Suddenly Red's thunderous battle roar burst from his throat, and he hurled himself forward. The grey bull stood his ground for a second, then turned, and with his cows and calves following plunged down the hill.

Red ran a little way after them, nipping at their heels and chivvying them on, then turned to come panting



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back to Danny. Danny grinned, and tickled his ears.

"They wouldn't of hurt me, you old fool," he said affectionately. "But if you've took it in your mind to be a cow dog, go right ahead. We'll get 'em down quicker."

He waited until he heard the questing Shep barking on a level with him, then ran swiftly down to the next path. Six black and white heifers came racing along it, but Red had already learned the game. He sprang happily at them, his eyes alight with mischief, and chivvied them down the hill into one of the strips of forest that separated the meadows.

BIT by bit they worked down the hill, and as the cattle were driven below, Danny swung slowly toward the other side of the meadows. The scattered little bunches of cattle gathered into a herd that galloped away whenever he approached. Shep came racing, driving five yearlings before him. They joined the herd, and disappeared with it into a forested ravine that led down the slope. Shep ran back to hustle a reluctant bull from its cover, and Red joined in the heel-nipping as they drove the bull into the ravine. Both dogs disappeared, but their steady barking floated back to Danny. Red-faced and panting, with little tobacco-juice icicles hanging from his walrus mustaches,

back up the slope, cut around the nose, and retraced the tracks he had made that morning. He ran the last five hundred feet up the valley, and stopped running, reassured, when he saw the cabin. Ross was all right, for blue smoke was curling from the chimney. Danny entered, and Ross grinned at him from the bed.

"Your supper's warmin' on the stove, Danny."

"How do you feel, Pappy?"

"Half dead," Ross said disgustedly. "Half dead from uselessness. Did you git all of Allen's cows hazed out of them meadows?"

"Every one, down to the last spindlin' calf."

"What in tunket has Red been doin'?"

"Chasin' cows. He got himself full of stick-tights. But I'll comb him after supper."

Danny felt his father's forehead, which was still hot but lacked the raging fever of yesterday. He ate his supper, washed the dishes, and spread a newspaper on the floor. Red sprang up to stand in the centre of it when Danny took a comb and brush from a shelf, and shivered in delighted anticipation. Red didn't like baths, but he loved to be brushed and combed. Danny worked carefully over him, removing every burr, bit of dirt, and all the loose hair. In the flickering light cast by the



John Allen appeared on the other side of the ravine.

"Any get past you, Danny?" he called. "Nary a one."

The other man grinned. "I heard your dog barkin'. Was he russlin' them cattle along?"

"Yeah. He's gone down the ravine with Shep."

"Let 'em go," John Allen said. "It's where I want 'em. They think they're awful smart, gettin' in that wooded ravine. But it runs right into my wing-fence, and comes out in the corral. We got 'em goin' our way, Danny."

"I'll take your word for it."

Side by side they walked down the ravine, and found the two dogs sitting together in the gate of the corral. Fenced at last, the cattle were milling about. A few awkward, spraddle-legged calves were standing still and facing outward. John Allen closed the gate, and Red came wagging back to Danny. He was surprised to find the sun sinking and the valley in shadow. There had been swift action nearly all day, and time had flown quickly. John Allen leaned on the gate with his hands folded.

"There they are," he said. "Tell Ross that I'm goin' to butcher the biggest and fattest steer, and I'll bring him a hindquarter. Will you come down to my place for supper, Danny?"

"Thanks," Danny said, "but I ought to be gettin' back. Pappy's sick."

"I know he is. Let me know if I can do anything."

"I will. So long."

"So long, Danny."

Danny followed one of the cow paths

kerosene lamp, Red gleamed like burnished copper, and from the bed Ross smiled wan approval.

"The more I see that dog the better he looks, Danny," he said.

"Yep." Danny stood up, and Red moved off the paper. Danny stooped to roll it up and thrust it in the stove. He put the brush and comb back on the shelf, and Red padded over to rub his combed flanks against Danny's legs and look in mute appeal up at his face. Danny grinned, and stooped to scratch his ears.

"You old lap dog," he said. "Always want to be petted, don't you?" He left the dog and walked over to the bed. "Can I get you somethin', Pappy?"

"Nah. I'll be up and around in a couple of days, mebbe less."

"You will not!" Danny said. "And you won't be outside until your cold is plumb gone."

"Yes, sir," Ross said meekly. "Did Allen have anything new to say?"

Danny shrugged. "Nothin' special. There was a jail break at Dwindale, and Allen said he'd send our beef up here."

DANNY took his rifle from its rack and sat down to oil the action. He looked through the barrel, to make sure that nothing obstructed it, and swabbed it out with a ramrod. Carefully he counted out ten shells, and set them in a row on the table. Red padded happily over, and stood with his eyes level to the table, looking at the shells.

"You aimin' to down a buck, huh?" Ross asked wistfully.

"Yup."

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Danny kept his eyes averted from the bed. Ross was aching to go deer hunting. But he couldn't, and Danny had to. The venison they got every year was an important food staple to the Picketts. No doubt Ross would be well enough to go out and hunt the last part of the season. But the deer would be wild and scattered by that time, and regardless of how good a hunter he was, no man could be sure of a buck. Red came over again to rub his combed flank against Danny's shins, and Danny played his fingers over the big dog's back. Of course he would take Red with him, not to help hunt deer but for company.

"Don't you worry," he said. "You'll get your chance at a buck, wait and see. I bet you'll get a bigger one than I do."

"Sure," Ross gulped, and then grinned. "Don't even trouble your head about me. I'm no tenderfoot deer hunter, as has to git his game the first day or he don't git it."

"Go on now," Danny scoffed. "Quit your braggin'."

Ross said soberly, "You better git to bed, Danny. You mebbe got a long day ahead of you."

Danny was up long before dawn the next morning. He milked and fed the cow, fed Asa, cooked breakfast for himself, gave Ross what he wanted, and packed a lunch. Danny put on his red jacket, and pinned a strip of bright red cloth to his hat. For a moment he stood awkwardly, looking at the helpless Ross. Then he filled his rifle with five cartridges, dropped five more into his pocket, and with Red crowding close beside him went out on the porch.

The night was lifting slowly, reluctantly. An inch of new-fallen snow was piled against the barn and springhouse, and lay in smooth mounds on the branches of the beech trees. Old Mike, leader of his father's hound pack, came

out of his kennel and stood in the snow lifting one paw after the other, only to crawl back into the warm kennel. Red ran down the steps, and sniffed at a pile of snow-covered weeds. A resting rabbit burst out of them and left a tiny tracery of tracks as he dashed away over the new-fallen snow. Red watched him go, and came back to Danny.

DANNY waited, standing quietly on the porch while the darkness faded and the daylight gathered strength. There were great herds of deer in the Wintapi, but if you wanted to be sure of getting one you had to figure on a hard and careful hunt. On the other hand, deer often grazed down to and bedded at the very edge of his father's clearing. It was possible to jump one almost anywhere, and a man who went too early into the forest could easily miss some fine chances. Danny shuffled his feet to warm them, and spoke softly.

"Meat hunter," he accused himself. "You're just a darn old meat hunter."

But that was all right, too. City hunters who could afford to come three, four, or five hundred miles to hunt in the Wintapi, were well able to hunt for sport alone. But, though both Danny and Ross enjoyed hunting and hunted fairly, neither could afford to overlook the fact that the creatures they hunted also furnished them with a great share of their food. Meat hunting was nothing to be ashamed of, Danny decided.

He raised the rifle, and sighted on a thistle that rose brown and naked above the blanket of snow. The front sight blurred, just a little, and Danny took the gun down again. Cartridges cost ten cents apiece, and there was no sense in using three to do the work of one. Unless the sights could be clearly seen, you never could be sure of your aim, and it would stay dark longer in the forest than it would out here. Danny

waited ten minutes and raised the gun again.

This time he saw the sights clearly, and could even discern the frost-shrivelled thorns on the thistle. He sighted on a burdock stalk, a hundred yards away, and saw that plainly. With Red padding behind him, Danny left the porch and went into the beech forest.

He stopped, thrust a finger into his mouth to wet it, and held his wet finger straight up. The wind was steady from the north, with no little cross-currents or eddies to fling scent about. Danny pondered. The snow had stopped falling at about three o'clock in the morning. It hadn't been an unusually severe storm here in the sheltered valleys, but the wind must have blown hard on the tops of the mountains. Therefore, the deer would be down from the wind-blasted heights to the calm valleys, and even if they had gone back their tracks in the snow would be evidence of their going.

Danny called Red to heel, and with the rifle held ready for action at split-second notice, started hunting straight into the wind. Far off a rifle cracked, and its rolling echoes searched the forest as some other early venturing hunter got his shot at a buck. He shot again, and again, while Danny counted. Probably he had jumped the buck and it had run. Very probably it was still running. Danny grinned and thought of the old deer hunter's adage, "One shot, one deer. Two shots, maybe one deer. Three shots, no deer."

Just ahead, a small grove of hemlocks waved their green, needle-tipped branches in the shadow of the towering beeches. Danny walked very softly, and cut around to one side to get a clear view of the open forest there. Nothing moved. There was no sound. Danny bent to enter the hemlocks.

Two deer had bedded beneath them.

The snow was melted and packed where they had lain and two separate lines of tracks led away from the beds. Danny followed them until he came to where they left a clear imprint in the deep, soft snow. One of the tracks was very small, and the other was the oval, tapered imprint of a doe's hoof.

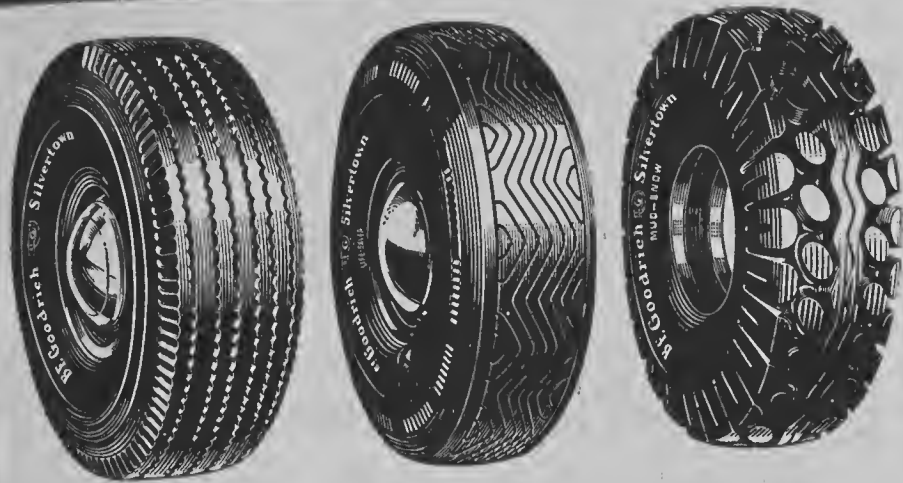
"Doe and a late fawn," Danny murmured to Red. "We needn't follow 'em."

With Red padding patiently behind him, Danny went deeper into the beech woods. He passed more fresh tracks cutting across the valley, but none that he could positively identify as that of a buck. It was that way sometimes; good hunting country would be overrun by does and fawns.

FROM time to time the sound of a rifle shot rolled across the beech woods and died in rumbling echoes. The sun climbed high, and strove to burn through the light clouds that were dusted across the sky. Danny stopped and brushed the snow from the end of a moss-covered log. He sat down to eat one of the sandwiches he had brought along. Red crouched in the snow, and gobbled the crusts Danny tossed him.

Danny rose and stood on the log to take a bearing. He had travelled very slowly, averaging about a mile and a half an hour. But he had hunted straight into the unvarying north wind, and was six miles deep in the beech woods. He would hunt in this direction for another hour, then swing up the side of a mountain and quarter back. If the bucks weren't in the beech woods, they had to be in the thickets.

Ten minutes later he found a buck's track, huge, blunted hoof-prints that led straight into the wind. Danny stopped to study the forest ahead, and saw nothing. But the track was very fresh; the buck had come this way not more than twenty minutes ago. If he



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hunted right he should get a shot with in another half hour.

Danny followed the track slowly, feeling for dead, noisy twigs or branches that might lie underneath the snow. Before putting a foot down. His thumb was on the hammer of his rifle, ready to pull it back and shoot instantly. His eyes strayed from the buck's trail to the forest ahead, and back to the trail. Ross had taught him long ago that a man who hoped to be a woodsman must read the sign of the woods, and the sign was very plain.

The buck was idling, walking along sure of himself and his safety. But plainly written in the trail he had made was positive evidence that he was old and wise. He avoided all open places, and kept close to the massive trunks of the beeches. The north wind was strong, and the buck was relying on his nose to inform him of anything that might lie ahead.

Danny came to a place where he had stopped, pawed the snow aside with his front hoofs, and dug in the beech leaves beneath it for the tiny beech nuts that had fallen there. The buck had leaped from his feeding place—there was twenty feet between that and his next track—and had run for a hundred feet more. Then he had stopped to listen.

But he had swung around to face the east, not the south. Danny crouched in his tracks, and tried to visualize exactly what the deer he was following had seen and heard to make him stop here. His gaze roved through the beech forest, and lighted on a dead tree two hundred feet away. A branch leaned from its parent trunk into the snow, and there were tiny scuffings all about where snow had fallen from it. Danny breathed with relief. The buck had merely heard the dead branch fall, and taken momentary alarm.

But now he had swung away from the valley and up the side of the mountain that flanked it. Danny followed, moving even more carefully and slowly because bushes grew among the beeches here. He must be very close to the buck, and a single misstep or fumble would send it leaping away. Here and there the buck had paused to snatch a mouthful of leaves.

Then he had gone straight toward the rim of a gulley, and the tracks he left were smoking hot. Danny crouched, and travelled swiftly while his heart pounded within him. He knew the gulley, a deep one with only massive trees in it. From either side, anything moving on the other side could be seen. If the buck went into the bottom of the gulley, and up the other side, he would offer a very good shot. If he merely went a little way over the rim and travelled along this side, Danny could follow on top and get a shot anyway. The big buck had made a mistake.

Danny came to the rim of the gulley and slunk behind a tree. He looked down, and slowly raised his rifle. Forty yards below him, in the bottom of the gulley, a doe stood broadside. She was

looking back over her shoulder, as though expecting something else to appear. Two more does stepped from behind a tree, and the head and shoulders of a fourth showed. A hundred and fifty yards up the gulley, another deer appeared. Danny looked hard at it. But it was only another doe, a straggler following this herd.

THEN, finally, he saw the buck. It had gone down into and across the gulley, and stood beside a huge beech. So perfectly did its grey coat blend with the grey of the tree that until now it had been almost invisible.

"Don't murder it," Danny breathed to himself. "Give it a chance. Pappy would."

His booted foot strayed to a dead twig lying beside the tree, and crunched down on it. The buck's white tail went up, and as though he had been shot from a catapult he sprang away from the tree. The does stared stupidly at him, and Danny swung his rifle.

The buck was running through the trees, straight up the other side of the gulley. Danny followed him with his pointing gun, and when the buck came into a small open space he squeezed the trigger. An invisible lance seemed to flick forth, and the buck fell so heavily that a little spray of snow leaped into the air. In blind panic the suddenly aroused does began to race away. Danny stood poised, scarcely noticing them, ready to give the buck a second shot should that be necessary. But the big buck lay still.

Danny started happily down the side of the gulley toward his fallen prize. Red plunged after him, but drew back and yelped in sudden excitement. Danny halted.

There was another deer in the gulley, the straggling doe that had been following the herd. In great, unnaturally long leaps she came pounding straight down the gulley. She jumped very high to clear a fallen log, fell heavily on the other side of it, and did not arise. A muted, sobbing bawl rolled from her throat.

Danny walked wonderingly down to the fallen doe. Blood stained her flanks, and a bullet hole gaped openly there. That, then, was the reason why she had straggled behind the rest. Some pot-hunter had seen something move, and shot without waiting to see whether it bore horns or not. The stricken doe rolled agonized eyes, and Danny shot her through the head.

He knelt beside her with his knife, and pulled off the cockle-burrs that were matted in her white belly hair. It was a case now for John Bailey, the Wintapi warden, though of course Danny would dress the doe so she wouldn't bloat. That done, he found his buck and dragged in into the gulley. He had just finished dressing it when Red growled.

"Nice shooting, kid," a voice said, "darn nice shooting."

Danny whirled and rose with the knife in his hand. The wind was still

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blowing strongly from the north, and the soft snow was almost noiseless. Even Red hadn't scented the man who had come down the gulley in the wake of the little herd of deer. He was a stocky man, with a hard, wind-reddened face and wearing hunter's clothing. But he flipped the lapel of his coat aside and Danny saw a silver warden's badge gleaming on his shirt.

RED wagged forward to meet him, and rubbed against his woollen trousers. The man reached down to brush a hand across Red's back, and straightened to look at Danny. He grinned, but there was a crooked twist to his lips and a hard, cold something in his eye.

"Nice looking dog, kid," he said casually. "Do you use him to track down the deer you get?"

"That dog don't hunt deer!" Danny flared.

"Well, you do. And that doe will cost you just one hundred dollars."

Danny settled down beside the buck and looked dully at it. A hundred dollars was a big sum, as much as Mr. Haggin paid him in two months for taking care of Red, as much as he and Ross together earned in six weeks on the trap-line. He looked up at the man.

"Look," he said desperately. "I picked this buck's track up back in the beech woods, and tracked him to here. He got in this mess of does, and I laid him over when he run up the hill. The last doe run down the gulley, tried to jump that log right there, and fell. She couldn't get up again. A pot-hunter had shot her, and all I did was put her out of her pain. That's the honest story, mister."

The warden laughed. "Oh, sure. I believe you. But I've been sitting on top of that ridge since daylight, waiting to catch somebody like you, and I don't like sitting that long for nothing. Are you ready to go in?"

Danny said grimly, "I'll go in. But I want to see John Bailey before I pay you anything."

"John Bailey can't do anything for you."

"I'll go in," Danny repeated stubbornly. "If John Bailey thinks I shot that doe, I'll pay. But not otherwise."

The warden grinned sympathetically. "You're in a mess, kid. But I'll give you a break. Give me fifty dollars and I'll forget the whole thing."

"Do you think I'd bring fifty dollars on a deer hunt?"

"Your rifle's worth fifty."

Red came over to Danny, and sat looking uncertainly into his troubled face. Danny's hand automatically went down to stroke the big dog's back. His probing hands paused a second. Then he looked the other man right in the eye.

"Stealin' wardens' badges, and makin' out like you're a warden, is against the law, too."

The warden's eyes suddenly became very, very ugly. He purred, "Are you going to get tough about this kid?"

"Mebbe. How's things in DOWNDale?"

Danny's glare answered that in the red-cheeked man's face. He watched the other man raise his rifle, cock it, and train it on Danny's heart.

Danny said slowly, "I'd probably be scared of that thing—if it was loaded. You are from DOWNDale, aren't you? And you haven't been sitting on top of the mountain. You came from Huntz Valley this mornin'. You're aimin' to head deep into the woods, and you got to have grub. You shot the doe in or near Huntz Valley, wounded her, and couldn't shoot again on account of you was out of ammunition. You followed her here, hopin' she'd fall . . ."

The red-faced man lunged forward. Danny brought his own rifle up, squeezed the trigger, and watched the bullet plow a long white furrow in the stock of the other man's gun. Splinter's flew, and a little trickle of blood started

down the other's wrist. Danny backed away, but his gun was ready.

"Don't try it again," he warned. "I didn't miss because I couldn't hit. We're goin' for a walk, but you're walkin' ahead."

It was mid-afternoon when they reached the cabin in the beech woods, and Danny ushered his prisoner inside. He handed the rifle to Ross.

"Watch him, Pappy," he said. "Don't let him get away."

"What's up, Danny?"

"Escaped prisoner. I'll be back."

Ross said grimly, "He'll be here when you get back."

WITH Red beside him, Danny went back into the snow and down the trail to Mr. Haggin's Wintapi estate. Mr. Haggin had gone south for the winter. But there were caretakers there, and they had telephones. Danny gave the three long rings that called John Bailey, and listened until he heard the warden's voice.

"Hello."

"Hello. This is Danny Pickett. Did one of your new deputies get in a ruckus, and lose his badge?"

"Why why . . . Where are you, Danny?"

"At Mr. Haggin's."

"I'll be right up. Wait."

Twenty minutes later John Bailey drove into the yard, and Danny went out to meet him. The tall warden got out of his car, and stood with one foot on the running board. Red came forward. John Bailey stooped to pat his head, and looked at Danny.

"You had it right," he said seriously.

"I was warned two days ago that an escaped convict from DOWNDale was thought to be hiding in here. This morning Ike Lowman was slugged over near Huntz Valley, and his badge and rifle taken. But the rifle had only one cartridge in the chamber. We couldn't track because there must have been fifty hunters went up that side of the mountain this morning. But the hunt is organized, and I've been trying to get more men out by telephone—that's how come you caught me at home. Now what about it?" he demanded.

"We got your man."

"Where is he?"

"Sittin' up in the house. Pappy's holdin' a gun on him."

John Bailey whistled. "How the dickens did you catch him?"

"I read the sign," Danny said. "I shot a buck this mornin', way back in the beech woods. A wounded doe fell a little way from it, and I shot her. Then this man came along with the warden's badge, and at first I thought he was a warden. When he said he'd forget the fine if I gave him fifty dollars, I suspicioned he wasn't. When he said he'd take my gun instead of the fifty, I knew he wasn't. I knew the doe had come from Huntz Valley. When I found out this man had come from there too, and hadn't been sittin' on top of the mountain like he told me, it was easy to figure the rest."

"How did you find out?"

"From Red," Danny said softly. "There's eight miles of beech woods between where I shot that buck and Huntz Valley, and there ain't a thing but trees among 'em. That doe had cockle-burrs stuck in her hair, so I knew she'd come from Huntz Valley on account of that's the only place where any cockle-burrs grow. I didn't even think to look for any on the man. But I combed Red clean last night. He rubbed against this man's pants, and when he came back to me there was cockle-burrs in his hair, too."

"Come on up and get your man, Mr. Bailey. But you'll have to bring him back alone. Pappy's sick and I got work to do. There's two deer in the beech woods, and I got to take Asa and bring 'em out."

(To be continued)

The Countrywoman

*If love should count you worthy, and should deign
One day to seek your door and be your guest,
Pause! ere you draw the bolt and bid him rest,
If in your old content you would remain.*

*For not alone he enters: in his train
Are angels of the mists, and lonely quest,
Dreams of the unfulfilled and unpossessed,
And sorrow and Life's immemorial pain.*

*He wakes desires you never may forget,
He shows you stars you never saw before,
He makes you share with him for evermore,
The burden of the world's divine regret.*

*How wise you were to open not!—and yet
How poor if you should turn him from the door.*

By SIDNEY ROYSE LYSAGHT

Meeting of the A.C.W.W.

A MEETING of interest to country women of many nations will take place in Amsterdam, Holland, from September 8 to 13 this year. It will be the Fifth Conference of the Associated Country Women of the World. The first was held in Vienna in 1929, the second in Stockholm, Sweden, 1933, the third in Washington, U.S.A., July, 1936, and the fourth in London, England, June, 1939. It was planned that the conferences would be held triennially but war intervened.

At the Washington meeting it was expected that some 1,000 women might attend. Instead over 7,000 came. It was the largest gathering of women ever to meet in Washington. The garden party arranged in honor of the delegates by the late President Franklin D. Roosevelt and Mrs. Roosevelt was the most largely attended function of its kind ever to be held on the White House grounds. At that meeting there were approximately 200 foreign delegates, Canada having a fair share of representatives among the number.

The meeting in London in June, 1939, was the last official gathering of the A.C.W.W. Already war clouds were gathering. Mrs. Alfred Watt, M.A., M.B.E., the Canadian woman who had been the organizer, told of that London conference at the meeting of the Federated Women's Institutes of Canada, in Edmonton in November of that same year. She told how in 10 years the A.C.W.W. had grown until it then numbered 84 national, provincial and state organized societies in 29 countries, representing over one million rural women.

The interest and participation of American rural women greatly strengthened the A.C.W.W. During the war, when life was sadly disrupted in England, much of the organization work was carried on in the United States. Financial and staff help were rendered generously. In September, 1941, an attempt was made to hold a meeting in Ottawa. Because the meeting was hurriedly called, set for early September, when rural women were busy and there was not sufficient time for official representation to be arranged and sent, the meeting, though attended by a number of leading American women and some few Canadians, was considered not to be officially called.

The arrangements for this year's conference are in charge of Miss Elsie Zimmerer, Chairman of the Executive Committee of the A.C.W.W.; address, Flat 1-15 Collingham Road, London, S.W.1, 5, England. It is greatly to be hoped that Canada will have a good and representative delegation from its rural women's organizations.

Many Canadians will remember Miss Elsie Zimmerer as she visited Canada, during the summer of 1936, and attended some of the provincial meetings of the Women's Institutes. At that time she explained in an interview with *The Country Guide*: "The Associated Country Women of the World links together rural women's organizations and individual country women, which we take into membership as well as societies. We have no set fee. We say that an organization is associated rather than affiliated with us. We have no set constitution. Voting may be done by representatives of various countries, through a proxy in our office in London."

Speaking of what might be expected to come out of a conference such as had been held that year in Washington, she replied: "A great deal of that cannot be put down on paper. There are of course friendships formed by women who attend and the stimulus which comes from learning what other women are doing."

Mrs. Alfred Watt spoke in 1939 of the aims and purposes of such meetings: "We are trying to educate

Concerning library matters in the prairie provinces and an international meeting of rural women

By AMY J. ROE

ourselves in agriculture, domestic science, political requirements, health, home crafts and other cultural arts, so that we may give better service to our homes and to our countries and to the world. We are trying to better rural life socially, economically and spiritually." At the Washington meeting Mrs. Watt said: "The Country Women's movement like a golden thread is weaving in and out of the countryside, a shining and hopeful pattern of international peace and goodwill." Meantime war has sadly shattered the pattern of life in many countries of Europe. In the meantime too, have come potentially powerful international organizations such as United Nations' Organization and Food and Agriculture. If a meeting of rural women representing many countries can come to better understand and further the work of such international bodies, intended to establish security the world over, then it will be held to good purpose.

Library News

DURING the closing days of the 1946 session of the Saskatchewan Legislature the Public Library Act and the Regional Libraries Act were passed. Since then interesting developments have taken place, showing serious intention on the part of the government to implement legislation it has placed on its statute books. Miss Lyle Evans was appointed Director of School Libraries and throughout the year has been able to render much needed assistance to schools in respect to setting up adequate libraries. Early in the fall, Miss Marion Gilroy, trained librarian from Halifax, experienced in dealing with organization work, was appointed Director of Regional Libraries. Miss Gilroy has been busy explaining to homemaking, church and other groups how municipalities may unite to secure library services. Plans are now under way to select at least one area for the purpose of setting up a regional library.

In June of last year, Hon. W. S. Lloyd, Minister of Education for Saskatchewan, announced that three scholarships of \$600 each would be awarded to assist qualified young people to secure training in librarianship at accredited library schools in Toronto and Montreal. The scholarships are open to residents of the province, not over 35 years of age, with the necessary academic standing and who will pledge themselves, at the completion of their course, to return to Saskatchewan and engage in library work for two years or else refund two-thirds of the scholarship money.

Over the border, in another prairie province, the outlook is not so good. Manitoba repealed its Library Act in 1940 because it was inadequate and had been subjected to much criticism. The Act has not been replaced. Thus Manitoba is the one province of the Dominion that has no Public Library Act on its statute books. It has no person in its civil service directly concerned with initiating public library services. Municipalities interested in uniting to secure such services are unable to do so because of the lack of permissive library legislation. In February, 1945, after considerable work and much study the Manitoba Library Association prepared a draft of a proposed Public Library Act. It was submitted to the government, recommended for consideration and action. The report of the Royal Commission on Adult Educa-

tion, tabled in the Manitoba Legislature during the third week of April termed library facilities in the province "hopelessly inadequate" and endorsed the draft library act of the Manitoba Library Association.

At the present time of writing no action has been taken on this matter. It has not been made the part of the program of any minister of the government; as yet only private members have made any reference even to the need for such an act. Various groups in

the province have been studying this matter for the past six years and it looks as if there will be another year of inaction on the part of the government. Possibly the subject has not been a matter of widespread demand. When citizens take the same concern for libraries as they do now for good roads, public buildings and utilities, and let members of the government know about it, Manitoba will be able to have some of the cultural services needed.

Standards Division

CANADA now has a Standards Division. It was set up during December, 1946, but its scope and powers were not then clearly outlined, except for a few commodities. In March of this year Hon. J. A. McKinnon, Minister of Trade and Commerce, tabled an Order-in-Council in the House of Commons, transferring some of the powers of the Wartime Prices and Trade Board to the new Division. A director, Allan F. Gill, a former National

Research Council engineer, has been appointed and will have a good sized staff to carry on the necessary work.

The Standards Division is empowered to prescribe the manner in which commodities may be sold, displayed or offered for sale and in the case of packaged goods to prescribe the size, kind, marking and branding or labelling of containers. It may establish grades for any commodity within the meaning of the order . . . may "study, investigate, report and advise upon any question relating to commodity standards . . . enquire and hear representatives of industry and trade and of commerce as to the desirability of establishing commodity standards."

The Minister made it clear that standardization will not be arbitrarily imposed on manufacturers. Adoption of standards will be purely voluntary and will come about as a result of agreement between manufacturers or because of consumer demand. He said: "We do not wish to give the impression that tremendous changes are to be made all at once, but we do hope that the new Division will do effective work in protecting the Canadian consumer and will assist Canada's export trade in that high standards will be built up, which will give Canadian products pre-eminence in other countries."

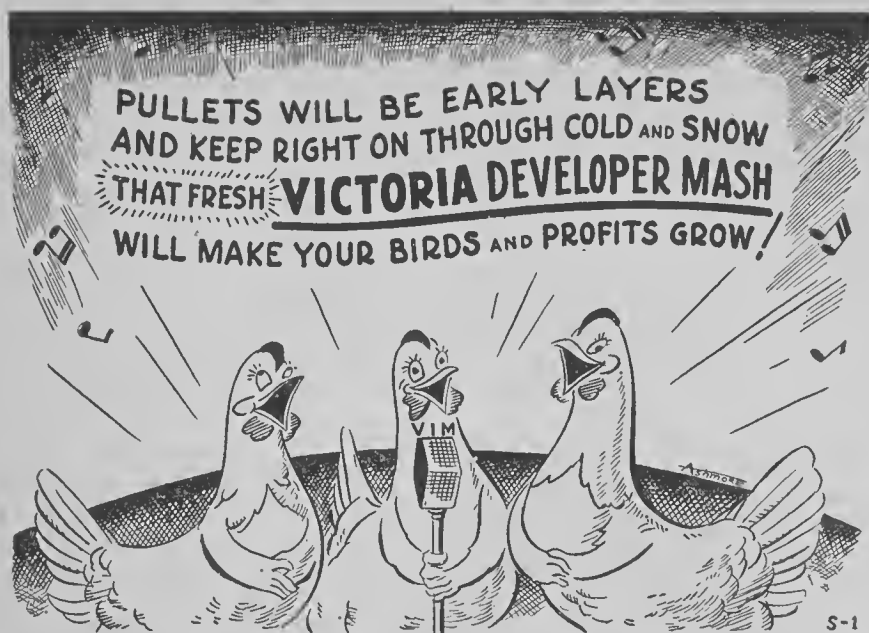
One of the first considerations will likely be clothing in regard to standardization of size and quality. There was some progress made in this regard during the war years, under powers given to the Wartime Prices and Trade Board. This was true in respect to such items as in the manufacture of hosiery; in the identification of furs by their natural names as well as fancy trade names used in display for sale, and in uniformity in the manufacture of rubber jar rings. Not so successful were the efforts made to have labels on shoes indicate materials used. Regulations concerning foods and drugs have been under special acts and the consumer has been well protected.

These are matters of concern to women who do the family buying. They have made their views known through such organizations as the Canadian Home Economics Association and the National Council of Women, both of which have made strong representations to the government during recent years.

In time, the Government hopes that the letters CS (Canadian Standard) on a product will be a positive guarantee of quality.



Marion Gilroy, Director of Regional Libraries, Saskatchewan.



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*-----



6-143

B.F. Goodrich FOOTWEAR

Control the Fly

Now is the season to fight household pests with new and effective weapons

By RUTH MEREDITH

THE common housefly is an annoying and dangerous pest, and in Canada it is probably the greatest disease-carrying insect known. Its favorite haunts are places of filth and disease, such as manure piles, outhouses, garbage and other fermenting refuse. It will fly from these unclean surroundings into the house to walk on cakes, bread, meat and other food, depositing germs.

Houseflies pass through four life stages: the egg, the larva or maggot, the pupa, and the winged adult fly. The eggs are deposited in fresh manure, garbage, and other decaying matter. A single female fly may lay 600 or more eggs during her lifetime, so the total number of descendants from one of these pests can amount to several millions during a season. Within about 24 hours from the time the egg was laid, a small white maggot emerges, and feeds on the surrounding material. When these are full grown they change into pupae, which are a reddish brown color, and roughly the shape of a very large grain of wheat. In about four or five more days, the pupae change into adults, and the whole cycle is repeated again. In ideal warm conditions the four stages take about two weeks.

In spite of the large numbers of these insects in the fall, very few live through the cold winters till the spring. Sometimes an adult fly will find a warm building with some decaying material on which to feed and keep up the reproductive cycle, but the majority perish with the frost. Usually only a few of the larvae or pupae pass the winter in some manure pile or other breeding place. Since few flies survive the hard prairie winters, the time to start the fight against them is in the early spring. Adult flies killed at this time prevents their many descendants from multiplying during the summer.

The control of houseflies is not an easy task, as there are a large number of breeding places and flies reproduce very rapidly. The best method is to destroy as many of their breeding places as possible. Flies lay their eggs in fresh manure of any kind, preferably in fresh pig or horse manure. Eggs are not laid in dry or old manure, as the larvae are only able to feed on liquids. Because of this, all manure should be gathered as often as possible, preferably daily, and scattered thinly over a garden or field. In this manner it will dry out and be unsuitable as a breeding place or food for flies.

All garbage should be wrapped in paper and placed in tightly covered cans until it is burned or buried. The outhouse should be made as nearly fly-proof as possible by keeping it dark and the pit covered. In addition to this chloride of lime, or a solution of half pound of borax in three gallons of water, should be spread liberally over the contents. Empty and bury the contents of the outhouse often during the summer.

Once the flies are adults, they must be controlled by keeping them out of the house. Screens are a great factor in helping the house to be free of these pests.

DDT is one of the best ways to destroy flies, and it will stay effective for some time after spraying. Sometimes the flies do not die immediately upon being sprayed or on contact with DDT as it is a slow-working insecticide. However, though they appear to be as lively as ever, they soon die. There are two types for use on the farm, and both are especially adapted for certain purposes. First there is the powdered DDT

which is mixed with water according to the directions on the container. This is sprayed on walls and screens and other places where flies will come in contact with it. This type of spray has the disadvantage of leaving a white deposit on the walls and objects sprayed with it, so it is not for use in the home where this deposit would be objectionable. However in the barn and other farm buildings this spray is the best to use, as it is much cheaper than other types.

The second type of DDT spray has a kerosene base, and when sprayed on walls will leave no mark. This is the type to use in the home as there is no deposit on wall finishes. This is more expensive than the powdered variety. Both types are equally effective.

New to the field of household insecticides is the Aerosol bomb. This is a bomb-like container which holds a greatly compressed solution of DDT and some other chemicals. First the doors and windows of the room to be treated are tightly closed. When the lid of the bomb is slightly loosened a fine mist fills the room, penetrating everywhere. Flies which are in the room are almost immediately destroyed. This spray will also kill other household insects as effectively. There is no danger present for human beings or animals should they remain in the room, so the bomb is entirely safe. A one-pound container of this substance will fumigate or control about 100 average size rooms. The price of these bombs ranges between three or four dollars, and the container may be refunded for a dollar, or refilled for the original price less the dollar value of the container. For those who would like to experiment with this insecticide there are individual bombs sufficient for one room. These sell at around three for a dollar. They may be purchased at most department stores and other stores handling insecticides. These bombs were used very effectively in the army in those areas where insects were a menace.

There is a word of caution from safety specialists concerning the use of commercial DDT preparations. They say if you use DDT for spraying in the home be sure to put out any open fires. It is an intelligent precaution against the explosive characteristics of the oil base used in some commercial DDT preparations. Another suggestion is not to spray children's toys, food or any utensils used for eating or drinking. Be sure to read carefully all of the manufacturer's labels on insecticides and sprays. He tested his products and knows what it can or cannot do. If the label lists any warnings or precautions, follow them closely.

OTHER good commercial sprays are on the market for use in both home and farm buildings. These are mostly made of pyrethrum and a water-white kerosene. To make them, ten to 16 ounces of pyrethrum are added to every gallon of kerosene, and the mixture allowed to stand for twenty hours or longer. The clear liquid is then siphoned off or filtered through a double ply of cheesecloth. It is then ready for use. The spray is usually applied by means of an atomizer. Since pyrethrum deteriorates quickly when exposed to light and air, this mixture should be stored in air-tight dark containers.

Another method of control is to expose poison bait in the room. This bait is made by mixing one teaspoonful of formalin in a cupful of sweetened milk, and left around in saucers to attract flies. Flyswatters and flypaper are other methods of control.

Fixing those Screens

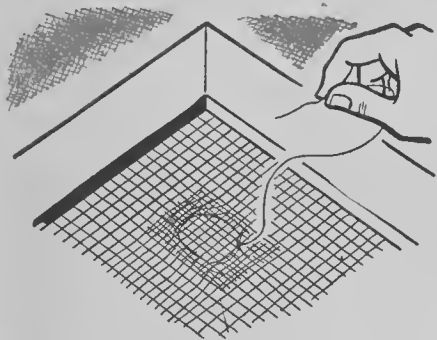
Getting ready for more home comfort during the summer

By JANE WEBB

THERE comes a day in spring when the bright sunshine shows the windows to be fogged with dust and streaked with winter's grime. Then the housewife feels that she must get at the job of washing windows. It is not sufficient to wash the inside of the panes and so she waits impatiently for the first balmy day to do the outside washing. There is some point to leaving the storm sashes on until the worst of the spring dust storms are over. But when growing grass and grain combine to hold the earth in place, then it is necessary to get rid of the extra sashes.

To permit proper ventilation of the house through opening of windows, during the hot summer days, those sashes must come off and screens must be put on. Good circulation of air through working and sleeping rooms makes for greater comfort and lessens fatigue. There is the added comfort that flies and mosquitoes are kept out of the house.

Now is the time to get at the job of fixing screens and having them put on.



Any holes should be patched.

They should be well fitted to the windows, with patching and mending done before they are put up. Wire screening is one of the items still in short supply. So check over your screens to see if you need new screening. Make the best use of what you have now by putting on patches, mending tears or weak spots; and consider giving them a protective coating to prevent rusting, which damages wire.

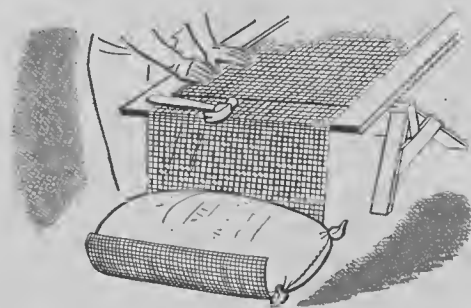
Patches for screens, of varying sizes, may be bought. You can use some of the unravelled wire for weaving or closing tears. If the frame is weak or the wood shows a tendency to split, you may brace the corners or buy corner irons or angles to give it greater strength. Screens, of course should have been well stored in the fall, laid flat or stored in an upright position so that there would be no pressure to bulge



Strips help make the screen door fit.

wire or warp frames. It is necessary to store them in a dry, well-ventilated place to prevent rusting.

Dust the screens off with a good stiff brush or broom. Wipe them over with a cloth soaked in raw linseed oil, or use a paint brush dipped in the oil as it



Weight keeps screening taut.

will do a better job of getting round the wire. If the screens are streaked and not in good appearance, give them a coat of thin paint. For this you may use screen-paint specially made for the purpose or use ordinary outside house paint, thinned 30 per cent with pure turpentine. To prevent a filling-in of mesh, which will have a tendency to obstruct the view, brush over with a dry brush, after applying paint. Use either

a black or dark green as you choose, the latter being preferable as it blends in with the green out-of-doors.

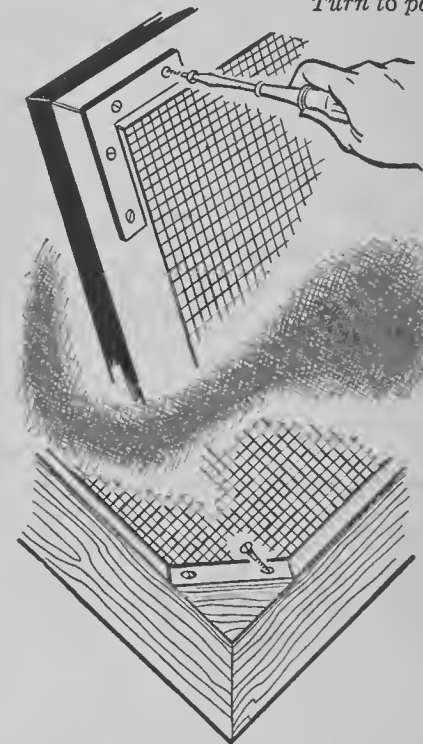
Screening comes in copper-bronze, black wire and a grey galvo enamel. The price varies with the type, the copper being most expensive, but it has the added virtue of not rusting. New plastic screening is beginning to appear but is not in general use or distribution yet. Screening comes usually in 24, 30, 36, and 48-inch width, at prices stated as so much per square foot. The 16x16 mesh is best for keeping insects out. It may pay to buy the wider width and cut for narrower windows. Take the exact measurements of screen frames with you when you go shopping and the hardware merchant will advise the economical width for you.

Non-rusting copper screening is more economical in the long run than iron screening. The objection is that rain dripping from it may cause a greenish discoloration on light colored trim and walls. On paint containing zinc the stain may be permanent. On straight lead paint, the stain will wash away by using one-half cup household ammonia in one quart of water or one-quarter tri-sodium phosphate in one quart of water. Both of these have a softening effect on paint and should not be al-

lowed to remain long in contact. Rinse with clear water. Staining of copper or bronze screening can be prevented by a thin coat of varnish. But first the screening should be cleansed and washed with benzine. One thin coat should last a full season. Pure shellac can also be used—thinned with one-half denatured alcohol.

To maintain a trim appearance to

Turn to page 80

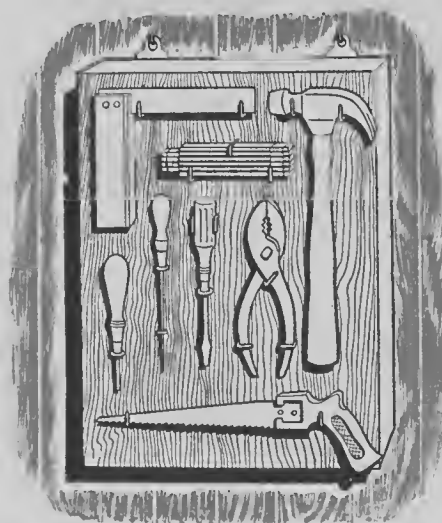


Use corner iron or brace for weak frames.

HANG IT UP!

Neat tricks for avoiding clutter

By MARGARET M. SPEECHLY



Since the beginning of things, the coal oil can and its funnel always seemed to have priority on the parking-ground. By hanging it on a strong hook on the under side of the lower shelf, I was able to store it out of sight. Next to it on another hook went the mop-pail which up to date had occupied floor space.

To hold the floor mop and the broom, I put in nails at convenient places on the porch wall. Screw-eyes in the end of the handles kept them off the floor. The scrubbing brush was hardly noticeable when suspended from another nail.

Then there were pets such as the footwarmer and a big ball of twine, both liable to be wanted in a hurry, but hardly worthy of a place on the

main shelf. I managed to tuck them away on a ledge that was quite accessible and yet out of sight.

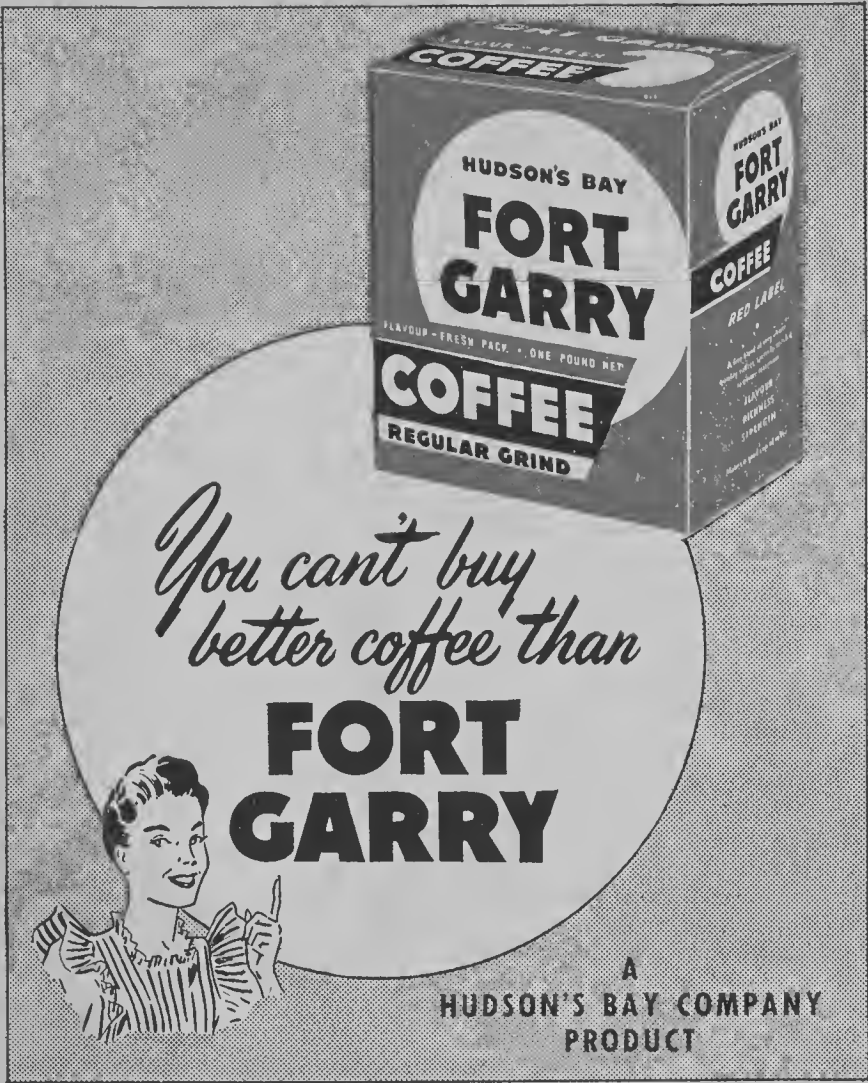
Hooks helped again in the wash-room which is only a step from the porch. We found it a convenience to have plenty of strong hooks for the men's coats and others for towels and shaving kits. We had always kept the soap dish in place on hooks, but the nail brush was usually left where it had no chance to dry. At last came the flash—why not hang it up? In went a screw-eye at one end of the brush and then a small nail next the soap dish for it to hang from. (Oh, no, the men don't bother to put it back, but it is easy to do that myself when cleaning the bowls.)

Even though a floor mop is good for wiping up spills it is impossible to manage without a floor cloth. Where to keep this treasure was my trouble. A nail was no good because the cloth did not dry. I tried parking it in the porch, but the cloth froze in winter. Finally, I screwed a towel-bar to the under side of the men's wash bench. Spread out on this, it dried properly and yet is out of sight.

On one end of the bench, I put another bar to hold the cloths used for cleaning the bowls. Next to this I hung the plunger used for the drains. With a screw-eye in the handle it hangs from a nail.

Even though there is a complete set of tools in the machine-shop, I found it paid to have my own repair kit at the house. At one time the hammer, screwdriver and pliers were parked in different places, so I fixed up a tool board and hung it at a strategic point

Turn to page 80



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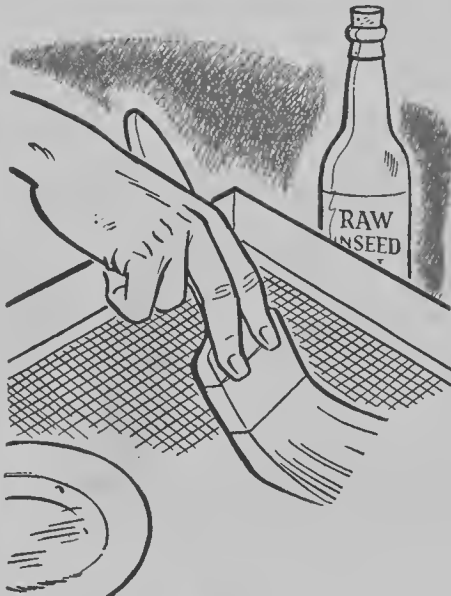
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FIXING THOSE SCREENS

Continued from page 79

the house, possibly the frames will need a fresh coat of paint. This is most often green but may match the trim of the house. Darker shades are not so apt to show marks, when stored. In taking off storm sashes and in getting screens ready, mark with a letter or number to indicate the window to which they belong. This saves time and confusion when the work has to be done.

In these days when it is almost impossible to get help in the house it is wise to invest some money in a few



Screens should be well wiped over with oil.

"unpaid helpers" such as labor-saving equipment and materials. One-half a month's wages to a maid, would go far to providing many useful aids. Then too they remain to be of service another

HANG IT UP!

Continued from page 79

in the washroom. After sandpapering a piece of wood 11x13 inches, I gave it three coats of paint the same color as the woodwork. To secure the tools, I used L-hooks in pairs.

To Check Fires

More than anywhere else, there is the constant danger of fire in any farm home. Statistics show that few people bother about fire extinguishers but even the latest gadget would be worthless unless it could be reached at the critical moment. In a central place in the kitchen we set up an approved extinguisher so it could be grabbed instantly. Also we hung up a pail of sand that could be used to smother a blaze. It is equally important to hang up an extinguisher by the heater or the furnace, and upstairs as well.

Part of the fun in using hooks and screws is discovering newer and neater tricks for storing equipment. Over the years, I have tried various arrangements for the poker, shaker and other tools connected with the range. The best was the end of the wood-box, with each on a separate hook. When things are hung two-deep it leads to aggravation and confusion.

Where to park the milk pails to dry after scalding, was one of my problems for a long time. No scheme seemed really satisfactory until my husband put up a shelf on the kitchen wall. This folds back when not in use, and (you've guessed it) I wasted no time in putting screw-hooks on the under side of the shelf to take care of the brushes and tools used on the cream separator.

Then there was the line-up of large covered cans used for lunches in the field. Cup-hooks on the under side of the draining board by the sink were the answer to that. During the season when

season. Such items might be: a good firm step ladder with a shelf attached to hold wash pail, tools and brushes. Have some of the latter with fairly long handles to save reaching. Have ready a generous-sized piece of chamois and an abundant supply of clean, lintless cloths for washing, wiping and polishing. It is amazing how a large number of cloths ready to hand, speeds up the job.

GET ready for the job of cleaning windows and putting screens on by gathering all equipment, tools and materials needed. If possible put them in a handled basket which may either be hung to the ladder or slung over the arm when moving from one window to another. You thus save yourself many trips to and fro and much climbing up and down the ladder.

Use a stick whittled to a point to clean out dust and dirt which accumulates in corners of the sash. Brush all loose dust from the outside frame and possibly give it a wash.

Every woman has her particular way of cleaning windows but it pays to vary methods, to see if you can find a better one than you have been using. There are a number of window-cleaning fluids on the market now. First the window should be washed off with clear, warm water or add a little concentrated liquid ammonia to the water. Then wipe the window dry and apply the fluid with a cloth soaked in the mixture or by the spray method.

A Saskatchewan farm woman tells me that she has used the following home-made mixture for cleaning windows, with good success for many years: one part raw linseed oil, one part vinegar and one part turpentine. Whatever method of washing and polishing you employ, adding a final rub with a piece of dry chamois will produce the highest possible sparkle to window panes.

no lunches were served these cans held cookies. And of course there is nothing like cup-hooks for the cups in the buffet and china cabinet. It is ever so much safer than stacking cups and the whole effect is neater.

I use hooks in the cabinet to increase convenience and am constantly finding better ways of storing things. L-hooks are particularly good for cake-coolers.

A towel bar near the sink is a handy thing for dishcloths and I use a couple of others for tea towels. On another bar in the kitchen I hang the sockdriers during the cold weather.

Lost and Found Department

And I really don't know how I could manage without pockets of various sizes. Shoe bags in each room keep footgear off the floor. I like pockets too for mitts and scarves and other articles needed in a hurry. Next to the machine I have a string of pockets for patterns and other supplies.

On the back of the kitchen door I tacked up pockets for paper sacks, string and work gloves. In the cleaning cupboard I put pockets for dusters, both on the ground floor and upstairs as well. To be efficient, a set of pockets needs to be secured at each corner. On some of mine I sewed loops of cloth or tape, on others I used brass rings or the metal loops from garters. Another good way to hang pockets is to make a hem at the top and run through it a stick from an old blind.

I nearly forgot to mention pin-cushions. Not the fancy kind, but neat square ones hung in central places. These not only save steps, but prevent accidents and leave no excuse for putting needles in curtains where they may run into somebody's hands.

Once you get the habit of hanging things up, you will never really stop and even though you move to another house you can take with you the ideas for making life easier and less complicated.

MOTHER—

Yes, it's so easy! Why Drest practically floats away the grease from our cream separator.

GIRL—

Honestly, Drest is the most wonderful work-saver I ever saw!

See the famous
Cream Quality movie
"A FAST WORKER"

**FATHER—**

Drest's better cleaning gives us a higher yield in butter fat and better quality cream. And that means more money, eh, son?

SON—

You bet, Dad. And with no hard brushing, Drest helps the equipment last longer!

LOOK!

In only 2 MINUTES...

THE CLEANEST CREAM SEPARATOR you ever saw—with amazing drest!

IT'S HERE! The best, most successful, method for cleaning milking equipment ever discovered! This improved up-to-date method is far easier, quicker, more thorough than ever before. Think of it! With Drest—Procter & Gamble's amazing Wetting Agent—it takes only 2 minutes... twice a day. That's cutting two-thirds from the cleaning time taken by old, tedious methods.

NO HARD BRUSHING!

Drest does away with hard brushing and scouring... because its unique action *pierces* milk scum—actually *dissolves* the greasy coating left behind by milk, and floats it away. Drest removes old milkstone and prevents new milkstone from forming. It's amazing how

discs and hard-to-reach surfaces are practically *flushed* clean with Drest!

**MORE MONEY FOR YOUR PRODUCT
THROUGH HIGHER BUTTER FAT YIELD!**

Leading dairy experts endorse this remarkable method that not only saves time—but assures better quality cream, higher butter fat yield, and more money for your product. Drest suds are economical... their efficiency is long-lasting. After cleaning separator, use same active solution on other utensils.

Be sure you get peak efficiency from your milking machine also by cleaning it with Drest and hot water after every milking. Use Drest for dishwashing, too—dishes and glasses shine, even without wiping. Get Drest at your store today.

NO SCOURING!**NO SCUM!****NO MILKSTONE!**

Made in Canada
A Hymosol Product

**SEND FOR
FREE BOOKLET!**

Send us your name and address and we will mail you a copy of the interesting free booklet, "2-Minute Cleaning Magic," which shows you how to clean the cream separator in only 2 minutes!

Don't miss the famous Cream Quality movie, "A Fast Worker," when it comes to your community. Address: Procter & Gamble, 1419 Montcalm Street, Montreal, P.Q. Dept. C23.

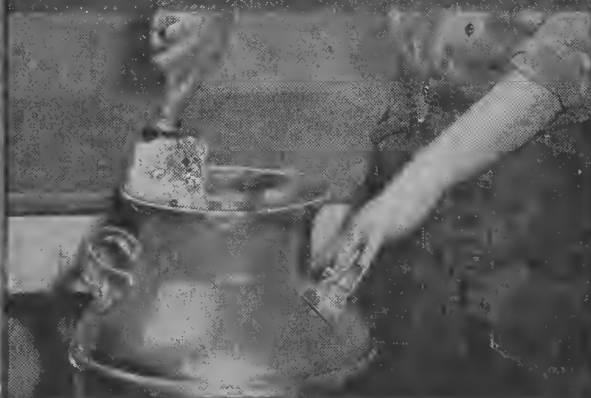
drest

PROCTER & GAMBLE'S PATENTED SUDS DISCOVERY!

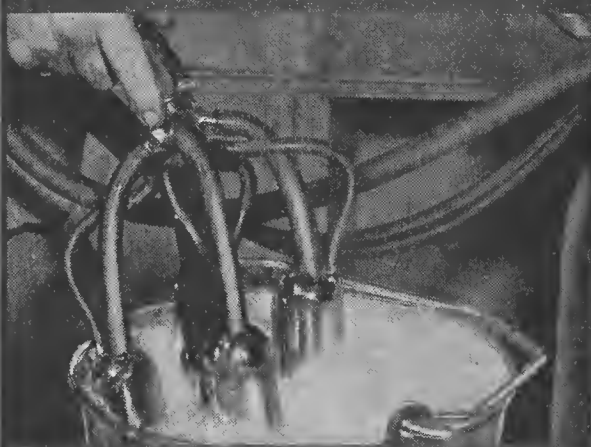
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**NO SCOURING NECESSARY!**

The movie, "A Fast Worker," shows how Drest gets to the discs and hard-to-reach surfaces and practically *flushes* them clean. No need for hard scrubbing or scouring!

**WONDERFUL FOR ALL DAIRY UTENSILS!**

See for yourself in this movie how Drest suds penetrate milk scum... swiftly cut and dissolve the grease... leaving utensils sanitary and shining clean!

**IDEAL FOR MILKING MACHINES!**

You'll be delighted how thoroughly Drest cleans all parts—sealing rubbers, hose connections, etc. Helps keep rubber parts smooth and pliable.

For best results use ROYAL YEAST



Always ready for fast baking

● Tender Parker House luncheon rolls, luscious sweet breads—bake them quickly—at any time with Royal Fast Rising Dry Yeast. No dashing out to the store at the last minute—Royal stays fresh for weeks without refrigeration. You can bake any time you're in the mood because it's always right there when you need it.

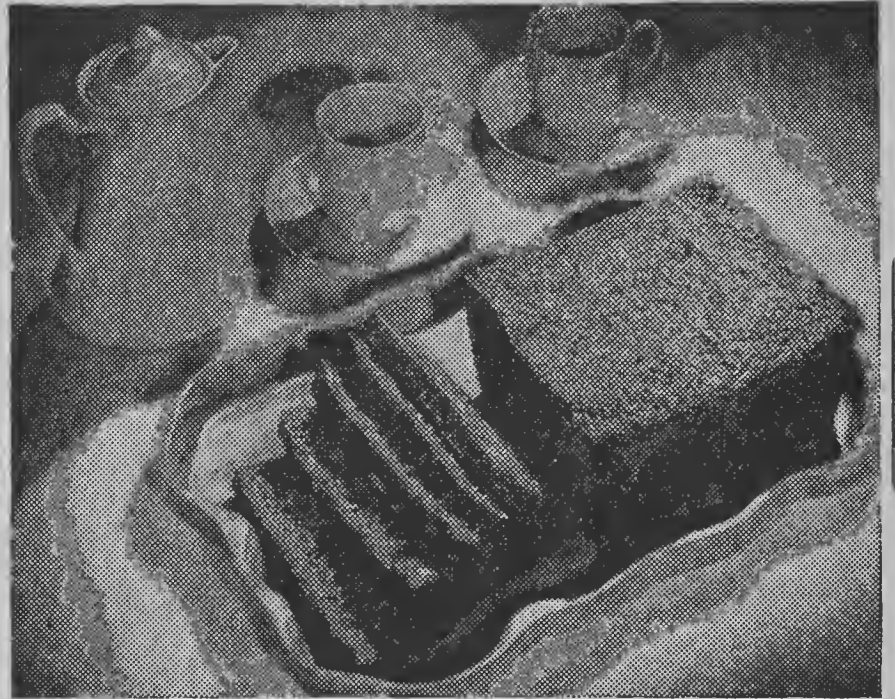
Keep a generous supply handy on the shelf. It will stay full-strength, as fast acting as the day you bought it. Get Royal Fast Rising Dry Yeast today. At your grocer's.



Use Natural Sweets

Dates and bananas provide added sweetness to family desserts

By MARION R. McKEE



Banana or date breads use sugar sparingly and make a delicious treat.

SAVING on sugar in the family menu is a problem for the housewife, and one which takes careful planning and thought. One of the easiest and yet one of the tastiest methods of saving sugar is by the use of naturally sweet fruits in many different recipes. High in sweetening power and delicious in flavor are both the golden ripe banana and the rich brown date. These two fruits have the advantage of adding a sweet flavor to baked and other foods, and in this manner cut down on the sugar which would be needed for more tart fruits.

Dates have long been one of the favorite dried fruits. During the war years they were difficult to obtain, but now they are coming back into our stores. They are high in nutritive value and are especially rich in iron and other minerals essential to a well rounded diet. Six medium-sized dates furnish as much energy as a large potato or three slices of bread.

Bananas are also high on the list of energy-giving fruits, and are an excellent source of minerals and vitamins. A banana has such a delicious flavor that few people do not like it. Combined with cereals or custards it will help cut down the sugar used in sweetening these foods, and will also add a welcome variation in flavor. Its use in fruit salads will help sweeten citrus fruits.

Make use of these two fruits in planning meals and notice how the sugar will last longer. The next time you think of making a lemon pie, think of your sugar supply and if it is a little on the short side, switch over to a banana chiffon pie. The family will not be disappointed.

Brazilian Bananas

½ c. confectioners' sugar
1 T. cocoa
Whipped cream

4 bananas
Chopped Brazil nut meats

Sift together sugar, and cocoa. Peel bananas; roll in sugar mixture. Chill. Sprinkle with nut meats; top with cream. Serves four.

Banana Chiffon Pie

2 tsp. unflavored gelatin
3 T. cold water
1 c. mashed bananas
1 T. lemon juice
½ tsp. grated lemon rind

½ tsp. grated orange rind
5 T. sugar
2 eggs, separated
½ tsp. salt
1 pie shell, cooked
Whipped cream

Soften gelatin in water five minutes. Combine banana, lemon juice and rind, orange rind, three tablespoons sugar, slightly beaten egg yolks and salt; cook slowly until consistency of soft custard, stirring constantly. Remove from heat, add gelatin and stir until dissolved. Cool until slightly thickened. Beat egg

whites until stiff, beat in remaining sugar and fold into banana mixture. Pour into pie shell and chill until firm. Spread with whipped cream. Makes one (9-inch) pie.

Cereal Date Pudding

½ c. cereal (half corn meal and half farina)
3 c. milk
¼ tsp. salt

1 c. chopped dates
1 T. butter
½ c. light corn syrup
1 egg

Stir the cereal mixture gradually into the boiling milk. Cook on hot stove or over flame for about five minutes stirring constantly. Add salt, then cook over water for 1½ hours. Add butter, syrup, egg well beaten, and chopped dates. Turn into a greased baking dish and bake for about 30 minutes in moderate oven (360-390 degrees Fahr.).

Banana Pudding

4 c. milk
½ c. sugar
½ tsp. salt
4 or 5 eggs

1 tsp. vanilla
Sweet crackers or cookies
Bananas

Heat the milk, sugar and salt in a double boiler. Beat the egg yolks slightly, and slowly add some of the heated milk. Pour back into the double boiler and stir constantly until the custard coats the spoon. Remove at once from the fire, place the pan in a bowl of cold water, and stir the custard occasionally as it cools. Add the vanilla. Grease a baking dish, put in the bottom a layer of sweet crackers, and slice over them a layer of bananas. Pour over this some of the custard and fill the dish about three-quarters full with these layers. Spread a meringue over the pudding and bake about 20 minutes in a very moderate oven (325 degrees Fahr.) until lightly browned. Chill pudding before serving.

Date and Apple Sauce Cake

½ c. butter
1 c. light brown sugar
2 eggs
1 c. dates, chopped
½ c. apple sauce
1 c. seedless raisins
1 c. nut meats, broken

2 c. flour
2 tsp. soda
2 tsp. baking powder
¼ tsp. cinnamon
¼ tsp. nutmeg
¼ tsp. cloves
1 tsp. vanilla

Cream the butter and sugar well. Add the eggs one at a time, and beat well. Add the spices, raisins and nut meats to flour. Stir the soda in the apple sauce. Combine the ingredients, and turn into greased and floured tube pan. Bake in a slow oven for an hour.

Date Bars

1 c. sugar
3 eggs
1 c. chopped dates

1 c. flour
1 c. chopped nuts
1 tsp. vanilla

Beat the eggs slightly, add sugar and vanilla and mix well. Add flour and the nuts and dates. Bake in a moderate oven, let cool, and cut in strips. Dust with powdered sugar.

4 OUT OF 5 PRIZE WINNERS USE Robin Hood Flour



TRY THIS

YORKSHIRE PUDDING

... and you'll make that prime roast beef taste even better!

Yes, surround it on the platter with golden brown squares of Robin Hood Yorkshire Pudding. Crispy, crunchy on the outside ... smooth and light inside ... so easy to make.

Roast beef and Yorkshire Pudding! They surely go together.

Just as successful baking and Robin Hood Flour go together. That's a fact to remember for all your baking.

4 out of 5 prize winners use Robin Hood Flour!

ACTUAL RECORD OF HOME-BAKING CONTESTS*

Of 10,617 First Prizes awarded ... 8,850
were won by women using Robin Hood Flour.

Of 10,617 Second Prizes awarded ... 8,198
were won by women using Robin Hood Flour.

*Records of proof available for inspection.

3 CONTESTS . . . 3 FIRST PRIZES!

Mrs. R. H. West of 2840 Earle Ave., Burnaby, B.C., wife of a contractor and mother of three children is an enthusiastic user of Robin Hood Flour — and with good reason!

"I recently entered a baking contest sponsored by the South Burnaby Horticultural Association and won their gold medal certificate for 'The Most Meritorious Entry in Home Baking.'

"As always in my everyday baking, I used Robin Hood Flour for my contest baking, and I won three prizes — First for bread, First for pie, First for cake.

"Naturally, I give a lot of credit to Robin Hood and of course always insist on this wonderful flour for all my baking."



ROBIN HOOD YORKSHIRE PUDDING

¼ cup hot meat dripping

1 cup sifted ROBIN HOOD FLOUR

2 eggs, beaten

½ teaspoon salt

1 cup milk

1. When roast is done remove from oven and keep warm.
2. Heat oven to 450 degrees F.
3. Pour ¼ cup hot meat dripping from roast pan into bake dish approximately 10"x6"x2". Place in oven to heat. Pan and dripping should be piping hot before pouring in batter.
4. Measure sifted flour into sifter, add salt. Sift together into mixing bowl.
5. Beat eggs until foamy; add milk. Gradually stir into dry ingredients, then beat with rotary beater for 2 minutes. Pour into hot bake dish and bake in oven 450 degrees F. for 25 to 30 minutes. Cut in slices and serve at once.

Yield: approximately 6 servings.

NOTE: For individual Yorkshire Puddings, pour batter into piping hot muffin tins, each containing 1 teaspoon hot dripping. Bake for 20 minutes.

Robin Hood Flour

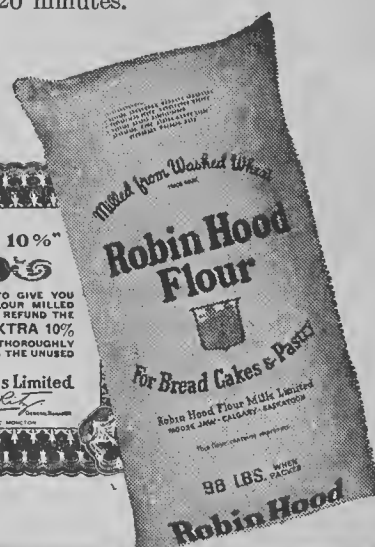
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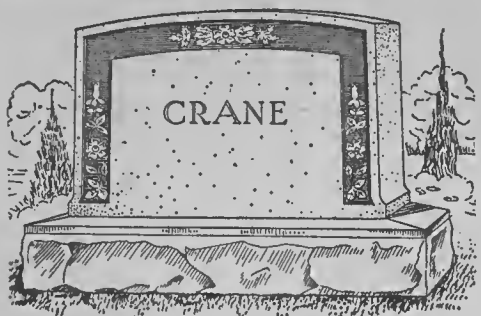
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Greaseless Suppository Gives Continuous Medication For Hours. Easy To Carry If Away From Home!

Too many wives still live in much ignorance about this higher type intimate feminine cleanliness. If only they'd learn about Zonitors—one of the most effective methods ever discovered and so widely used among highly intelligent and exacting women.

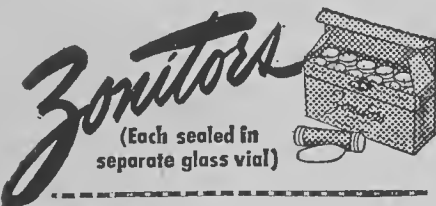
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May Sewing

No. 2128—A charming basic dress featuring a choice of necklines. Cut in sizes 10, 12, 14, 16, 18, and 20 years, 36, 38, and 40 inches bust. Size 16 dress without the peplum requires 2½ yards 39-inch fabric; with peplum requires 3¾ yards 39-inch fabric.



No. 2183—Pinafore with winged shoulders. Cut in sizes 12, 14, 16, 18, and 20 years, 36, 38, 40, 42, 44, and 46 inches bust. Size 36 requires 3½ yards 35-inch fabric, 3⅝ yards ric rac.



No. 2107—Blouse featuring side opening. Cut in sizes 12, 14, 16, 18, and 20 years, 36, 38, 40, 42, and 44 inches bust. Size 36 requires 1¾ yards 39-inch fabric.

No. 2990—Easy to make blouse. Cut in one size suitable from sizes 10 to 20 years. Requires 1½ yards 39-inch fabric.



No. 2174—A softly feminine dress with a sweetheart neckline. Cut in sizes 12, 14, 16, 18, and 20 years, 36, 38, 40, 42, and 44 inches bust. Size 36 requires 3¾ yards 39-inch fabric, 2½ yards ruffling.

No. 2134—A dainty housedress with carry-all pockets. Cut in sizes 12, 14, 16, 18, and 20 years, 36, 38, 40, 42, and 44 inches bust. Size 36 requires 4 yards 35-inch fabric, 3½ yards ric rac.

No. 2840 — Four lovely tea aprons, ideal for gifts or bazaars. Cut in one size. Each apron requires 1 yard 35-inch fabric.



No. 2148 — Pleated cape sleeves make this dress news for spring. Cut in sizes 16, 18, and 20 years, 36, 38, 40, 42, 44, 46, 48, and 50 inches bust. Size 36 requires 3½ yards 39-inch fabric.

Be sure to state correct size and number of pattern wanted.

Write name and address clearly.

Send 20 cents for Spring and Summer magazine which includes a complete sewing guide. Illustrated in color, presenting many pages of charming pattern designs for all ages and occasions.



Patterns 20 cents each.

Address orders to The Country Guide Patterns, Winnipeg.

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Hair Grooming



Daily brushing of hair is a practice of Louise Albritton, lovely Hollywood star.

A correct routine directed at the scalp and suited to the type of hair

By LORETTA MILLER

Thorough scalp massage follows each brushing. Because circulation begins below the chin it is necessary to begin the scalp massage low on the nape of the neck. Place the fingers firmly against the nape of the neck and, without sliding the fingers, rotate them so that the flesh moves with their action. Then move the fingers upward an inch and rotate them again. Move them in little circles, first to the left and then to the right. Raise the fingers, slide them up an inch and continue the rotating massage. Repeat until the back of the head is reached. Then begin low again and work upward. Next, place the fingers just back of the ears and massage up to the centre top of your head. Low again, and massage upward. Go over every

inch of your scalp. When you have completed the firm massage your scalp will tingle and glow and feel warm.

If your hair and scalp routine calls for an application of liquid, either tonic, stimulant or oil, to the scalp, here is the way to get it on the scalp without saturating the hair. Make a part and, with a pad of cotton dipped into the corrective aid, pat it lightly on the scalp. Wrap the cotton around the end of an orangewood stick, if you want to be sure of keeping the application under control. When you have applied the corrective along the part, make another part an inch or so away and continue to pat on the application. Repeat until the entire scalp has been covered.

Not all preparations require steaming, but when directions suggest that the application be followed by steaming, here is the procedure: Saturate a large Turkish bath towel in very hot water, then wring it out. Quickly, while the towel is hot, wrap it turban fashion around your head. Remove when it is cool, dip into hot water, wring out and repeat the application. This should be continued for from five to 30 minutes, depending upon the directions.

Oily Hair—Dry Scalp

Reverse the usual routine and massage the scalp before brushing the hair. This is necessary because circulation must be aroused first so that the second step, or brushing, is more effectual in normalizing the action of the oil ducts. The daily routine is important, even though it may appear at first to accentuate the condition. Shampoo this type of hair once each week and let it dry naturally. A good tar shampoo, or one made from tar soap is beneficial.

Oily Hair—Oily Scalp

Brush the hair, then massage the scalp, following the directions outlined above for these two steps. The day before the weekly shampoo, apply the following liquid to the scalp: To two ounces of bay rum add one tablespoonful of rubbing alcohol. Mix well and apply only to the scalp. Then massage thoroughly. Steam for ten minutes, and follow with a thorough shampoo with tincture of green soap. This shampoo soap may be had in your local drug stores. Sunshine is beneficial to oily hair and scalp and it's well to do the brushing out of doors when the weather is warm. At any rate, dry this type of hair in the sun when possible.

Dry Hair—Oily Scalp

Brushing is of major importance in overcoming this condition. Brushing normalizes the action of the oil ducts



BORDERLINE ANEMIA*

a drain on energy—a damper on charm!

How do you appear to others? Are you tired-looking and listless? Is your face pale? Have you lost charm along with the vitality you once had?

Such effects often come from a blood condition. You may have a Borderline Anemia, a mild anemia due to a nutritional deficiency of iron. Your red blood cells may be too faded and weak to transmit full energy to your body. Many women, men and children drag their weary way through life with this Borderline Anemia.

How Ironized Yeast Tablets Build Up Your Blood and Vigor

When your color is fading—your energy too low—due to this common blood condition, take Ironized Yeast Tablets. They are formulated to help build up faded red blood cells to healthy color and size—to help restore your usual vigor. Of course, continuing tiredness and pallor may be due to other conditions—so consult your doctor regularly. But in this

Borderline Anemia, take Ironized Yeast Tablets to help build up your blood. Take them to start your energy shifting back into "high," to help restore your natural color! Take them so you can really enjoy life again!

*A mild anemia due to a nutritional deficiency of iron.

BORDERLINE ANEMIA why it can make you TIRED • PALE • LISTLESS



Energy-Building Blood. This is a microscopic view of blood rich in energy elements. Here are big, plentiful red cells that release energy to every muscle, limb, tissue.



Borderline Anemia. Many have blood like this; never know it. Cells are puny, faded. Blood like this can't release the energy you need to feel and look your best.

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and, at the same time, distributes the oil through the hair and so helps in overcoming extreme dryness. With this condition, scalp massage is the second step and is second in importance to brushing. Any good oil or pure castile shampoo will be helpful in normalizing this condition. Also, because this type of hair grows slowly and often has split ends, it may be well to have the unattractive ends clipped off occasionally. Shampoo every ten days or two weeks, or only when you are sure your hair and scalp require cleansing. The thorough brushing will do much to keep the hair clean, especially if you make a point of keeping the brush clean.

Dry Hair—Dry Scalp

Thorough scalp massage followed by thorough brushing is the best advice anyone could give those with a double dry condition. When the brushing is completed, the following oils should be used: Equal parts castor oil and olive oil. Place these in a small enamel or glass dish which can be heated, and, when the oils are mixed and hot, apply them to the scalp. Then use a comb for spreading the oils through the hair. Give the scalp a second massage, then follow with fifteen minutes of good steaming. Use a good castile shampoo and be sure that all shampoo is rinsed from the hair. Rub with a clean towel until most of the moisture is removed. A very sparing application of pomade may be rubbed lightly over the hair and scalp before dressing the hair. Shampoo only when necessary. Brushing will be of greatest importance in this corrective campaign.

Miss Muffet Knit Frock



Design No. K-83.

For particulars see page 87.

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Spring at Your Fingertips

Attractive needlework by Anna DeBelle



Design No. 784.

Cutwork Roses Tray Cloth

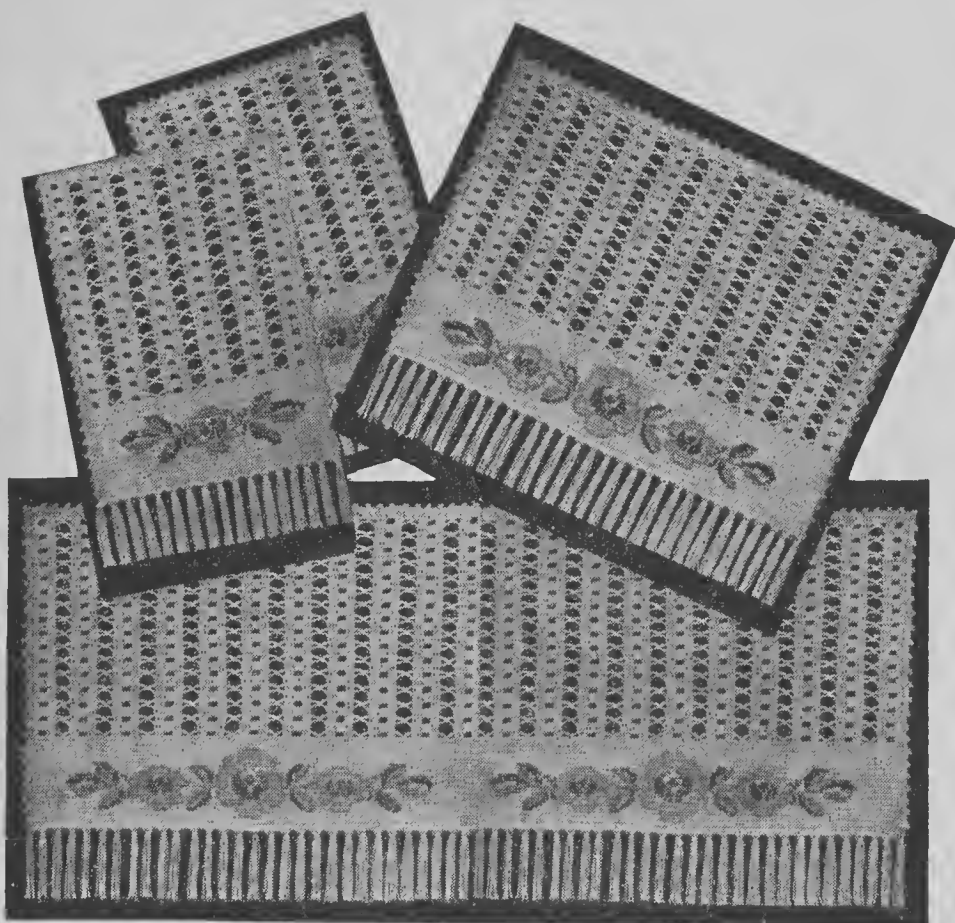
By the time summer roses bloom in your garden you can have one of these lovely covers for a tray, coffee table or tea wagon ready to use. It is Design No. 784, is stamped on Irish linen and measures about 18x24 inches. On fine quality white linen it is \$1.25. On ivory linen it is 95 cents. Threads are 30 cents.

Miss Muffet Knit Frock

Design No. K-83.

For a little lady's best dress we think you will be delighted with this pretty hand-knit design. Pattern is No. K-83, price 20 cents and includes sizes 1, 2, and 3 years. And did you notice the ribbon drawn through the yoke and neckline and the very short sleeves?

Chesterfield or Chair Set



Design No. C-287.

Cross Stitch on Crochet

You can make this attractive chesterfield or chair set without the cross stitching, if you wish, but the added color is glamorous and a perfect finish. Pattern includes working chart for the flowers . . . and it's not at all difficult to do. Pattern No. C-287, price 20 cents.

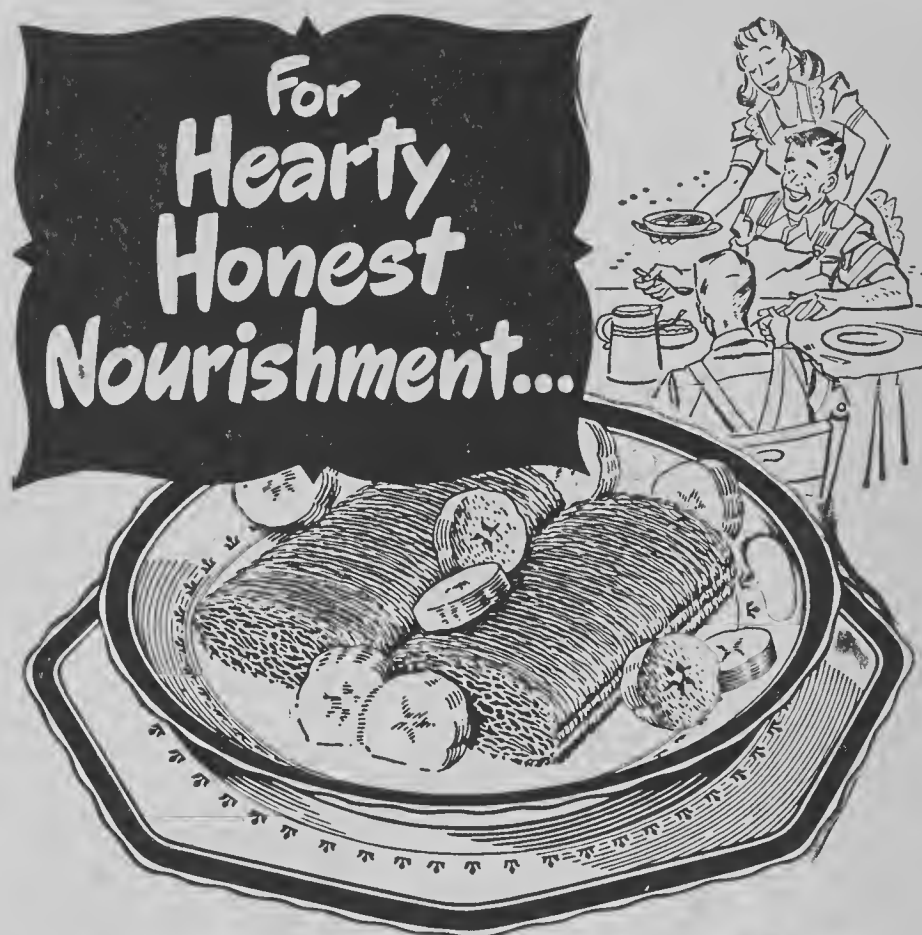
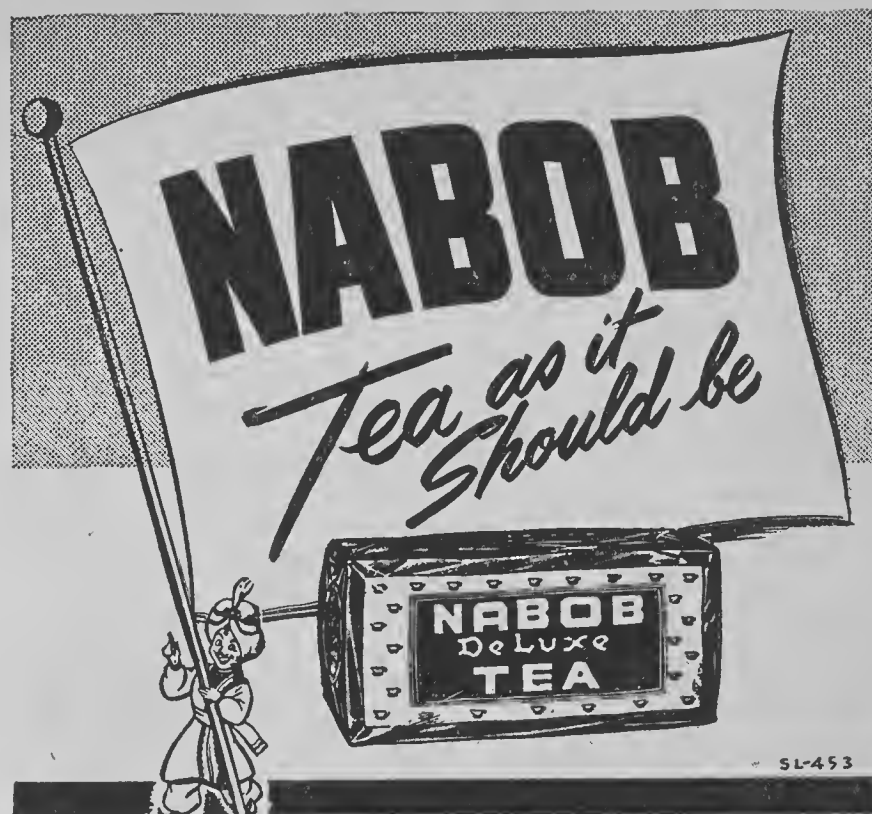
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SW-7FP

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In England Now

Diary tells of spring floods on farmlands, news concerning food and gardens

By JOAN M. FAWCETT

Wednesday, March 26, 1947. I read an article by an American, in one of our newspapers last Sunday, saying that it was bad policy for England to go on telling the world about its troubles, that nobody likes listening to a sob story that goes on too long, that nothing succeeds like success and the reverse, and that in short we ought to put on our best clothes, make up our faces as never before, and give no end of a party to impress the world at large, and America in particular, with our resilience and unbreakable power.

And because I agree with the American, I hate to have to start my diary to you this month with just one more trouble; first it was the blitz, then the invasion, then rationing, then snow and ice, and now it is floods. If it wasn't serious it would be funny. But it is serious, dead serious for the farmers and all of us who will be counting on the food they produce by next winter. They are very late sowing corn, in fact a lot of autumn sown wheat is not yet in, and now the potato crop is threatened because of these weeks of stagnation owing to the snow and now the floods. Thousands and thousands of our valuable acres are under water and even when that goes down will be unworkable for weeks at the best. Our rivers, swollen to bursting by the melting snow, have been made unmanageable by the rain and the gales we have had since the snow went, until now every part of England and much of Scotland is affected.

Here, we are on the east side of England, a little farther north than the Fens which are the worst affected parts, on the low lying land that stretches to the coast. The actual village is luckily on a slight rise and the roads to it are above the flood level but to the north there are miles of dismal, wind-swept water where once there were wide fields of plow land and grazing. I walked down a lane on Saturday evening to the edge of the floods, to see the break where the river Trent has burst its banks. It was a grim experience. As I went down the lane which led onto the eight thousand acre stretch of low land known as the Carrs, lorries, tractors and farm carts passed and repassed me, hurrying back away from the water with all that they could rescue from the inundated farms: fertilizers, potatoes, turnips, corn and hay, animal fodder. The animals had been driven away earlier and are now housed about the village on other people's farms. The potatoes and fertilizers are being dumped in the inn yard and the vicarage garden. It was evening and the first frenzy of effort had been worn out of the men but they were still going doggedly on.

We passed a slight rise in the ground where they were building two new corn stacks with sheaves rescued from a big farm on the very edge of the rising water. These new stacks looked to me pathetically near the floods but I suppose they felt that they had no time to take it farther back. I have heard since that they have had to move it all again, but on Saturday they could not visualize the water getting so bad and so they piled on the sheaves with all the speed they could muster. Nearer still to the flood water, other men were opening potato clamps and riddling potatoes. It was an urgent task as these roots represented not only food and money but seed for this year's harvest. Already there were thousands of pounds lost under the water. A woman brought tea from a nearby cottage to the tired men but her cottage was very close to the rising water and she had been busy

all day moving her furniture upstairs.

When we got near to the big farm at the end of the lane, the water was up to the sides of the road and men were driving in tall stakes to mark the direction when the road had disappeared for it was essential that they should go on using it as long as the water was not too deep for the lorries. The stack yard was covered with about three inches of water but there was still a lot of stuff to move. We turned away from this miserable sight and went up onto the bank that was built many years ago to keep the flood water of the Trent out of this level stretch of land but now the river has burst through it, making a gap thirty or forty feet wide through which a roaring torrent is rushing unceasingly. From our vantage point, we could see across the miles of still grey water to the distant low hills. Nothing moved, even the seagulls that had swarmed over it earlier had gone; there was no movement, no life—farms and corn and hay stacks were the only things sticking up out of that cold waste, somebody's home, somebody's livelihood. And then it began to rain again and we turned back along the bank as the cold drops poured down our faces. Up the lane the water was now over the road and was still rising, as it must until that surging gap is filled.

And now to tell you about some of the better things that are happening to us so that I shan't incur the censure of the American too greatly. When the snow went at last, during the second week of March, we found that the snowdrops were already out and the crocuses only needed the sun to bring them into full and glorious bloom. And we did have sun during those first days of thaw. I even sat at the open window one day and was warm without a coat.

In the food world things are a tiny bit brighter too; we are told that our sweet ration will be restored to a pound a month next Monday. It was cut down to half a pound a month during the fuel crisis for none of the sweet factories could work and the stocks got low. Now however things are getting back to normal and the shops seem stocked up again so next Monday we shall be able to go into a shop and buy, not just look in and feel our mouths watering. We can also get just now large tins of sweetened apples and tins of sausages without points, so I am getting some in to store for next winter. We have also just received a new issue of clothing coupons and this, together with the spring weather, makes it fun to plan out one's summer wardrobe. One almost forgets the money question, the coupons seem so important. And this morning I got a permit to buy two tons of coke before the end of April!

Last night we had two friends to supper and were amused by the tales they had to tell of London during the fuel crisis, when the smartest women went about in fur coats, trousers and fur-lined boots in the house and fastened scarves over their best hats when they went out. There were no lifts anywhere, so one had to walk up every floor in the hotels, and meals were served by candle light. Everyone seems to have found it amusing so perhaps the American was more right than he knew and we are after all far from the end of our spirits and our energy.

Friday, March 28, 1947. Great excitement in the village! Troops have arrived to stop the gap in the flood bank. They are to sink barges to check the flood and then build a wall of sandbags so there is hope that soon the pumps can work again and the water will sink back.

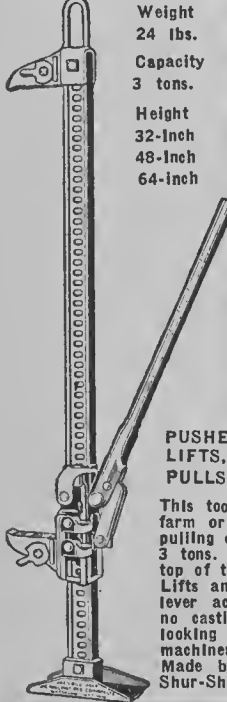
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Big Scale Duck Farming

A casual suggestion by a Chinaman led to the establishment of Canada's biggest duck farm on Vancouver Island

By JEAN I. MATHIESON



Part of the Thomas flock which produces 200 dozen eggs a day.

THERE are few people who owe their success in life to the depression but such is the story of Mr. L. G. Thomas, of Sidney, B.C., who has become King of the Duck Industry of North America.

Before the depression Mr. Thomas was the owner of a thriving business on the mainland. As year succeeded year conditions steadily became worse until in 1934 Mr. and Mrs. Thomas moved to Sidney, B.C., where they owned a yacht and a small piece of property on the waterfront. After erecting a temporary dwelling Mr. Thomas wondered what he would do for a living.

At this time a two hundred acre piece of property, situated a mile from Sidney on the Saanich road, went on sale in twenty ten-acre lots. Mrs. Thomas, whose early life had been spent near Sidney, persuaded her husband to look over this property for her intuition seemed to tell her that Saanich road was destined to become a money-paying investment. Mr. Thomas, who had already suffered greatly financially felt this was just another money-losing venture, but he finally looked over the property. He was quite unimpressed until he discovered that one twenty-acre lot had Reay Creek running through it. Somehow it reminded him of his home in Wales but the owner wished to keep it until he had disposed of the others. As far as Mr. Thomas was concerned it was unobtainable. Mrs. Thomas was unwilling to give in. The next day Mr. Thomas went to the owner again with the result that he returned home saying, "Well, it's ours, what do we do now?"

To Mrs. Thomas' housewifely mind came the obvious answer, "Clean it."

Day after day they labored, clearing brush, burning slash, etc. One day a Chinese acquaintance of Mrs. Thomas' father came in. He was deeply interested as to what they purposed doing with the property. Neither Mr. or Mrs. Thomas had given much thought to this question, but the Chinaman had. He suggested raising ducks. At first the thought of quacking, untidy ducks filled Mrs. Thomas with something akin to disgust but the pressing need of earning a living caused her to reconsider.

Thus it came about that in the fall of 1934 Mr. and Mrs. Thomas began their search for ducks. A veritable search it proved to be for no one seemed to have ducks for sale on Vancouver Island. Finally two were secured. As it was October the egg-laying season was practically over so one lone egg was the egg production for 1934. Nothing daunted, Mrs. Thomas set the one egg. The result was Esmeralda, a duck which became the family pet and also the family pest.

During the winter Mr. Thomas secured pamphlets on ducks from the

Dominion Government. By the time spring came both Mr. and Mrs. Thomas were fully persuaded that duck raising could be profitable.

That spring an incubator for fifty eggs was purchased and in this way began an industry which today keeps four incubators each handling two thousand eggs running at full capacity for nine months of the year. This maintains a steady flock of over ten thousand fowl made up of the two varieties Pekin and Khaki-Campbells.

The Khaki-Campbells are kept for their eggs and each day two hundred dozen are gathered. This is a staggering number when one thinks how seldom these eggs are served at breakfast tables, but these eggs are not for you or me. They are sold exclusively to the Chinese communities of San Francisco, Los Angeles, Vancouver, Portland, etc. This speaks for itself because the Chinese are the greatest connoisseurs of eggs in all the world.

Dinner tables across the continent serve the dressed ducks. A huge electric refrigerator handles a thousand dressed ducks while shipments go out weekly.

With such a steady flow of shipments there is a correspondingly heavy shipment of duck feathers which are sold to pillow and quilting manufacturers. These feathers are removed from the fowl by a waterfowl plucking machine which after removing them conducts the feathers by means of a fan through a suction pipe directly into a bag ready for shipment. Each duck yields three and a half to four ounces of feathers.

Another important by-product is the manure which a one horse-power electric compost pulverizer grinds into finely textured fertilizer, which in turn is sold to eager farmers. This in itself is no small item as the annual output is approximately three thousand sacks.

Naturally no two people could run such a thriving industry themselves. During the summer months college students are employed and local help assists the remainder of the year. Even then they are often short-handed. This short-handedness has had its amusing side too. When the troops which were stationed at Mill Bay were disbanding at the close of the war they wished to have a duck dinner the next day. Mr. Thomas told them that it was impossible. On learning that this impossibility was due to lack of help the commanding officer offered to send a whole regiment if only they might have the ducks. The following morning fifteen soldiers arrived and the fowl were ready to be served that night.

To visit the duck farm for a few hours is to become thoroughly convinced that duck raising is a unique business. Such was the case of the R.C.A.F. man who

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two years ago bought three duck eggs. These he set. One egg got broken, two hatched, one duckling was killed by a dog but the survivor lived to be a great pet. Recently Mr. Thomas received a telephone call from the owner asking if he would board his duck while he and his wife went south. At the present time Bridget is holidaying at the duck farm.

Mr. and Mrs. Thomas laugh good-naturedly at all the strange things which come their way. Somehow these people who have known difficult times seem to understand that even the raccoon which periodically raids their flock can be up against it too. So, a duck now and again seems to be Mr. Raccoon's just due.

Quite unimpressed at their unique position in this industry Mr. and Mrs. Thomas are enthusiastic over their chosen vocation. One field alone remains untried, that of pressed ducks. However as this is an industry in itself Mr. and Mrs. Thomas feel that for them "Down, Dinners, and Dividends" will remain their motto.

Butterfly Farming

THERE are all sorts of ways of earning a living, but few people think of butterfly farming. In the BBC's Overseas Service recently, L. Hugh Newman talked about his butterfly farm in England. He breeds butterflies and caterpillars for collectors, biology teachers and scientific research institutes. There is quite a large and steady demand. His smooth-skinned caterpillars are bred specially for cancer research, and thousands of cabbage whites are regularly taken by manufacturers of insect sprays and washes who want to test their new products on them. The rarer specimens are disposed of in special auction sales every month, and sometimes fetch high prices, as much as £110 for a pair. Each year there are "fashions" in collecting certain species of butterfly. The more delicate kinds of butterfly are bred in large greenhouses and given special food.

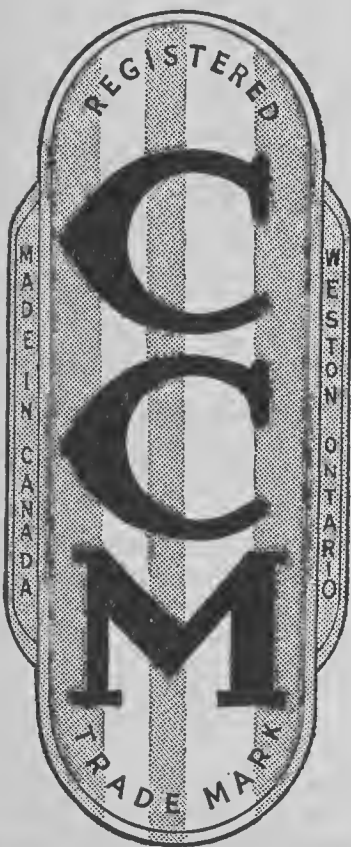


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PRECISION-BUILT FOR EASY RUNNING

1947 Bartier Model

Father makes a Jeep that goes for the Bartier youngsters

By PAUL H. SABOURIN

NOTWITHSTANDING the fact that the commercial jeep has become a more or less common sight on postwar thoroughfares, considerable interest is currently aroused in this northern Alberta community by the model jeep which Leon Bartier, 32-year-old former ex-member of the R.C.E.M.E. and presently head mechanic in a local garage, has constructed for the benefit of his young twins. Bonnyville is 171 miles from Edmonton.

Completed just a few weeks ago, the model required nearly a year of the mechanic's spare time to finish. It is an exact replica of the standard sized vehicle.

Building of scale models of various automotive designs had been a hobby with Bartier previous to his joining the army, with which he served four years overseas as a motor vehicles instructor in England, Holland, France and Belgium.

whole thing on an undercarriage made of scrap iron and slapped on wheels equipped with 3.00x5, 4-ply tires. Then he made a few trial spins around the garage floor with the stripped model to assure himself that the mechanical end of his project was functioning satisfactorily.

The next job—molding and welding of hood, sides, floorboard and other body parts—turned out to be a much more painstaking one. He had to do it all with mangled slabs of scraps and it took up his extra time until past the year's end.

Next came the final touch, a double coat of paint. With its bright orange body, red and white sideboards and blue hubs, the tiny jeep now looked as shiny and strong as a car just off the assembly line.

The model's maximum speed is eight m.p.h. It weighs about 200 pounds, stands 20 inches high and has a wheel-base of 45 inches and a width of 26



Edward, Edna and Hawkie tour the Bartier yard in a model car which really goes.

Returning home in October, 1945, Bartier recounted his experiences to his blond, seven-year-old boy and girl, Edward and Edna. He noticed that they were particularly fond of hearing about his wartime jaunts in military jeeps. A few months later, he took them for a ride in a commercial jeep and the kids told him afterwards that nothing thrilled them as much as a trip in a jeep. It was then that he got the idea of putting his old hobby in good stead by building the children a small edition of their favorite four-wheeler.

He already owned the necessary motive power in a Johnson Iron Horse 5/8-H.P. motor which had been doing nothing but rusting in a shed.

Bartier decided to build around it and began collecting odds and ends which can be found on any garage junk pile. Then he set the pieces down on a workbench in a corner of Gaucher's garage and proceeded to "fiddle around," as he calls it.

After a few months of occasional evening work, the heart and skeleton of the model started to take form. The parts which he used were almost multiple in age and origin. For instance, a Model "T" supplied the steering column. A V-belt, sprockets and ball bearings came from old, dilapidated automobiles and a bicycle furnished the rotary chain. Bartier put elliptical springs on the front end, placed the

inches. There's no cranking needed to get the motor started. A simple push on a hand-manual beneath the dashboard sets off a hot-shot, six-volt high tension coil for the required ignition. The gear shift is also in its proper position near the driver's wheel and the headlights and the horn are controllable from inside the cab.

Little Edward has rapidly become, under his father's guiding hands, a competent and careful driver, and he takes his sister and dog, Hawkie, out for an occasional whirl around the Bartier yard. His Dad, very proud of this, says he's a "chip off the old block" and that it's a cinch he can't miss becoming an expert driver. The mother, however, feels somewhat wary about all this and she has made her husband promise that the motoring will not extend to the traffic lanes until the kid is eligible for a driver's license.

The midget jeep is surprisingly roomy inside. The builder attests for this by pointing out a test run which he made with it a short time ago. Starting out with the twins as passengers, Bartier drove for two miles. By the time he turned around to return to town, however, three other youngsters had climbed aboard. The jeep made it without flinching but Bartier says his 180-pound frame was more than a bit cramped when he finally climbed out.

The Country Boy and Girl

Have You A Scientific Mind?

By WALTER KING.

DO you believe every yarn you hear about people and things, or have you an analytical sort of mind which seeks a reasonable explanation or proof for every eye-brow raising story?

Don't become an easy target for all the gossips, truth-twisters, and superstition peddlers who enjoy passing on sensational yarns. Straight thinkers have learned to sift most of the possible truths from the great maze of silly ideas that are in common circulation.

Try your hand at this test and see how well you can spot truth from nonsense. Some of the statements are quite all right, some are untrue, others are positively silly. Check off the statements which you feel you can accept as the truth.

But first, fair warning! Your score is going to be the number you get right minus the number wrong. So, don't guess. When not sure about a statement, pass it up.

1. Open windows will attract lightning.
2. There are "hoop" snakes which can form a circle and roll along like a cartwheel.
3. A lizard can lose its tail and grow a new one.
4. Thunderstorms will cause milk to turn sour.
5. If you handle a toad you will get warts on your hand.
6. Four-leafed clovers bring you luck.
7. A ring around the moon usually means a change in the weather.
8. An elephant is afraid of a mouse.
9. Radio static is more pronounced in summer than in winter.
10. A porcupine can "throw" its quills.
11. It is dangerous to take shelter under a solitary tree during a bad thunderstorm.

* * *

Now for the answers. 1. False. This is just a silly story circulated by simple people.

2. False. No snake can roll and no snake can keep up with a fast running boy or girl.

3. True. And it is not the only creature that can do this.

4. False. It is not the thunderstorm that turns the milk sour but the hot weather that accompanies it.

5. False. A toad may look warty but he cannot pass his ugliness on to a human being.

6. False. This is just a common superstition.

7. Yes, this is actually so. The ring around the moon is caused by high altitude clouds which generally bring on unsettled weather.

8. True. An elephant is afraid of any small animal which might crawl into his trunk lined with sensitive membranes.

9. True. Summer thunderstorms and atmospheric conditions affect radio waves.

10. False. Quills protect the porcupine by leaving its body easily and sticking in the mouth of an attacking animal but the porcupine is unable to "throw" its quills to meet an attacker.

11. True. Tall, solitary objects attract lightning.

To obtain your correct score you must remember to subtract the number of incorrect answers from the number of correct ones. After that, you may pat yourself on the back if you scored ten or over. People cannot fool you a great deal. You think straight and probably

One for the blackbird,
One for the crow,
One for the cutworm,
Two to grow!

DOWN the row you go planting corn, five kernels to a hill. Just the thought of munching corn from the cob at home or with the gang at a corn roast is enough to make you want to plant a whole garden full of corn. When you are digging around in your garden you may come across a creamy colored grub tightly curled up, about an inch long and as thick through as a pencil. Put a spade full of dirt with some potato parings in a pail covered with a screen and in June you will find out an interesting fact as to what this grub finally becomes..

How good is your memory? Look at the twenty-six articles shown on this page. There is one article for each letter of the alphabet, except X and Z. Allow yourself five or ten minutes to look at the articles closely. Then see how many you can remember and write down. A score of fifteen or over is good.

GOOD LUCK (in Morse Code)

Ann Sankey



make careful enquiries before accepting a story.

From 7 to 9 is considerably better than average. This indicates you do quite a bit of thinking of your own. Below 7 is a bit weak, but still you are not too easy a target for silly yarns. A score of almost zero indicates you are a particularly cautious person, rather hesitating and undecided. Below zero means you are a poor guesser and a very easy mark for the nonsense peddlers.

What Do You Want To Be?

A Career in Radio or Television

MAGIC words they are, "radio" and "television," and you are curious to know whether you can make a career for yourself in one of these fields. The first step in the invention of the radio came in 1898 when Marconi's wireless broadcast a dot-and-dash report of a yacht race in the Irish Sea. But our modern radio broadcasting began about 1920.

What a variety of occupations this marvellous invention opened to the world—engineers, writers, sound effects men, actors, musicians, announcers, research experts, salesmen, station operators, general office employees as well as many others, are needed in radio. Radio has never been at a stand still. Each year some new development has meant new jobs and now with the opening of television the chances are still better.

Perhaps the most thrilling part in radio's history deals with the men who operate the tiny radio stations on board

ship and continue to send out the S.O.S. call even in the face of great danger.

Huge ocean liners carry radio operators who are well paid and enjoy a pleasant life aboard ship even though it means long absences from home. Skilled men are needed to operate police radio stations which aid police in tracking down lawbreakers. The radio systems which guide our air liners and on which the safety of many lives depend are operated by skilled radio men.

Do you like to mimic and imitate sounds? A radio sound-effects man is a very important part of the program. He must be able to produce any noise or sound—the chirp of a bird, the roar of a forest fire, the trot of horses' hoofs, pistol shots, a forest fire (by crinkling a piece of cellophane in front of the microphone). Even the pleasant sizzle of a frying egg or the crash of an airplane must be produced.

Where do you get a start in radio? Once again look to a hobby. You can learn the code with a fifty cent buzzer and at the same time earn credits in your scout troop. Building your own equipment will teach you a great deal about radio operation. Obtain an amateur radio license (a "ham" license it is generally called) by writing the government examinations after you have mastered the Morse code, that is when you can transmit and receive ten words per minute. Then you can communicate with boys hundreds of miles from your home. I know a Manitoba boy who for three years had communicated by wireless with a Saskatchewan boy but they

had never seen each other. Can you imagine their excitement when they met overseas during the war when they were posted to the same base!

The best jobs in radio go to the graduate engineers for they look after the construction of new stations and do valuable research work. The registrar of your university will advise you as to what radio courses they offer.

If you would like to follow television get your radio training first. Television servicemen especially will find paying work, for unlike radio servicemen the field is not overcrowded.

Try to get into radio work of some kind even as a handy man around a broadcasting studio. Then you get a real chance to see the many opportunities which radio presents, and to choose the one you prefer. Free booklets on building amateur sets and radio training may be obtained from the Controller of Radio, Department of Transport, Ottawa.—A.T.

Fun With A Newspaper

FOR your next party, it would be wise to have a good paper trick up your sleeve. A magic trick is always a hit... especially one that works.

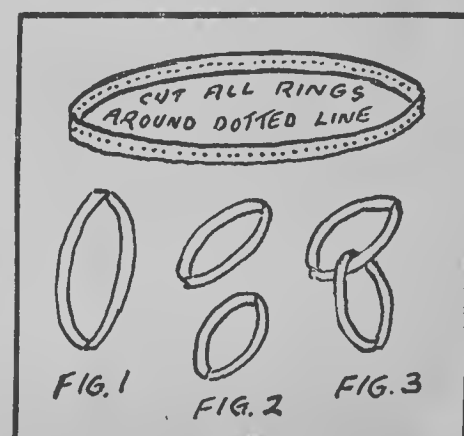
A real Houdini puzzler which your friends will never see through (unless you tell them the secret) is to make three strips of newspaper each two-feet long and one-inch wide. Then paste the ends of each strip together to make three paper rings. Next, proceed to cut each ring down the centre, so that it will appear each will come out as two rings half an inch wide. As you do this, call the attention of your on-lookers to the fact that since you are cutting each ring in the same manner, they can expect the same results.

But can they? Only the first ring comes out as expected, in two separate rings half the width of the original (Fig. 1). Then, as you cut the second ring you mutter some magic words such as "Algo blonio! Fosco fornio!" and Presto! the thing comes out as one long ring double the size of the original. (Figure 2.)

The third ring is even more surprising. As you cut, you change the magic words to "Adda cadabra! Cadibra rabra!" and behold, the original ring turns out as two smaller rings linked together like a chain.

The secret? Sh-h-h-h! When you paste the edges of the first ring together you do so without any twists in the paper. However, upon pasting the ends of the second ring together, you give the paper one twist over (one edge is turned through 180 degrees) before pasting down. And yes, you guessed it! Before joining the ends of the third strip you give it two twists. (One end goes through 360 degrees.)

You will notice that the rings are so thin and so big that the twists in the paper are quite unnoticeable and this is one trick you can depend on that will never let you down.—WALTER KING.



Ad. Index

Apart from giving Guide readers a ready reference to items advertised in this issue, the coupon below may be used to order literature, samples, etc., offered our readers, by our advertisers. Advertisers offering literature, samples, etc., are numbered at the left and these numbers should be used in the coupon. Where stamps, labels, etc., are required an "X" appears alongside the number. The ad. itself will tell you what to send.

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THE COUNTRY GUIDE, May, 1947
Winnipeg, Man.

From the items numbered I have selected the following in which I am interested in the literature, etc., offered.

Name

P.O.

Prov.

Numbers

Please print plainly.

Between Ourselves

WE attended the Winnipeg Sportsmen's show last week and came away with the conviction that western and northern Canada provide the best hunting to be found on this continent. But apparently the half has not been told. A. E. White, Coronach, Sask., sends in a picture, reproduced on this page, which shows a form of game we had never considered. We do not know if the Saskatchewan Nimrods stalk these critters and shoot them with 12-gauge on the hop, or whether they use rifles and bowl over sitters at longer range. North Africans who boast of the size of their hoppers and locusts, please note.



A Saskatchewan big game hunter.

MAYBE the article on sheep pasture golf on page 46 is a new departure for Country Guide readers. But we think it is worth a laugh, and a drop of fun is better medicine than a spoonful of seriousness. Having heaped plenty of scorn on golf and golfers, this editor kept the article under consideration for a long time, but finally decided that if Mr. Gallenkamp could golf on the farm, and still retain his status among his neighbors who have dedicated their lives to monetary reform and other propositions of equal gravity, we could take a chance. This article also introduces a new artist, Barbara Cook. We may have a score to settle between Miss Cook and Mrs. Gallenkamp, but we will not try to clear that hurdle until we have come to it.

WE also take pleasure in introducing to you on pages 66 and 67 a group of young men who contribute steadily to our stock of humor. When this publication was first launched farm journals were largely restricted to technical information on agriculture. Modern farm magazines have widened the scope of their reading matter to keep step with the growing interest of farmers in activities beyond the farm boundaries. In Canada The Guide has taken the lead in this trend. The regular use of small cartoons is a case in point. Between ourselves, we feel that the steady contributions of these bright young men helps make this publication more acceptable in farm homes. If you know of anything better please tell us.

OF course, this search for amusing stories with which to enliven the pages of The Guide leads us into some embarrassments. For instance we have had to turn down K. D. Ewart's story of the father of ten who was the victim of a shooting fatality in which he was mistaken for a rabbit.

IN the March issue we said some unkind things about the grain exchange, but R. J. Deachman, formerly of Calgary, Huron North, and Ottawa, takes a swipe at us for our pains in The Ottawa Citizen. Says he in part:

"We are told this is a gambling process. Basically it is not. It is speculation, not gambling. Speculation is the taking of a risk which must be taken. When wheat is threshed and ready for the market, the risk of the price change must be carried by someone. The grain exchange developed a means by which risk could be carried at the least possible cost.

"The answer of The Country Guide to these problems is that the grain

exchange is patronized by sharks and suckers of each variety. The Country Guide would have quite a task to identify any of these particular animals at the grain exchange.

"Let us hope we may get over our present frenzy of hate, then we may turn to real remedies for low prices of basic commodities." (i.e. the system of marketing we had before the war.)

A generous build-up from an old personal friend! As one of the last surviving Manchester Liberals he will go down with laissez faire nailed to the masthead. As to the merits of the case we will leave it to our readers. From his distance, Bob will not know, rightly or wrongly, that an eyedropper would hold all the tears shed for the grain exchange on the farms of the West.

MICKEY WOOD is one of the lads who works in our building. Mickey doesn't like our covers. Too tame, too sentimental, so he says. He wants hot blood and action. Mickey caused us

to think searchingly. He might be right. And then we got to thinking of his upbringing. He belongs to that generation which left high school to ride the rods from Vancouver to Montreal and back. We suspect that the lobster boat which provided his first substantial income was a disguised rum runner. From this he went to piloting Mosquito fighters. Mickey doesn't consider a man grown up until he has looked down the barrel of a hostile revolver. On second thought we feel that this sort of an apprenticeship isn't representative, and therefore his judgment on covers isn't a safe guide to popular taste.

OUR article in the April issue, on the effect which the new coarse grains policy would have on hog production, has drawn fire from E. F. Richardson, Semans, Sask. He says that the rise in the price of barley announced on March 17 is between 10 cents and 13 cents. The increase in oat prices is between 1½ cents and 5 cents. Producers received a boost in hog prices a short while ago. Another increase is promised for September. "From the above," says Mr. Richardson, "you will see that the man who raises his own feed will be better off than he was a year ago."

Our correspondent could be answered in the terms of Prof. G. L. Barton of the university in his own province. This investigator bases his argument on the changing barley-hog ratio, which may be defined as the number of bushels of No. 3 C.W. barley at Winnipeg equal in value to 100 pounds of B-1 hog, live weight, also at Winnipeg. According to this economist it requires a minimum ratio of 22 to produce any significant increase in hog production on the prairies. Prior to the March 17 announcement the ratio was 21.4; by reason of the announcement it became 18.1. The prospective September increase will make it 19.9.

Hon. J. G. Gardiner's Brandon speech forecasting the discontinuance of subsidized barley, alters the position. There is no point in continuing an argument based on figures which will soon be out of date. The March 17 announcement, without the rider added at Brandon, had the effect of sending much good breeding stock to the abattoirs.

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MAY, 1947

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